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OFFICE

STATE OF INDIANA.

SECOND ANNUAL REPORT
OF THE
DEPARTMENT
OF
STATISTICS AND GEOLOGY

DEPARTMENT OF
STATISTICS AND GEOLOGY.

JOHN COLLETT, *Chief of Bureau.*

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THE STATE OF INDIANA,
GOVERNOR'S OFFICE.

Received November 11, 1880, and transmitted to the Secretary of State to be
filed and preserved in his office and published as ordered by the Commissioners of
the Public Printing.

SAMUEL R. DOWNEY,
Secretary.

Filed in my office November 11, 1880.

J G. SHANKLIN,
Secretary of State.

DEPARTMENT OF STATISTICS AND GEOLOGY,

INDIANAPOLIS, November 1, 1880.

To His Excellency, JAMES D. WILLIAMS,

Governor of Indiana:

SIR—Herewith is submitted the second annual report of this Department, as provided by act of the General Assembly, approved March 29, 1879, “for the establishment of a State Bureau of Statistics and Geology; creating the office of Chief of such Department,” etc.

Respectfully submitted,

JOHN COLLETT,

Chief of Bureau.

ROSTER OF THE BUREAU.

JOHN COLLETT,

CHIEF OF BUREAU.

JOHN T. CAMPBELL,

FIRST ASSISTANT.

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ASSISTANTS ON SPECIAL DUTY.

JOHN N. HURTY, CHEMISTRY.

GEORGE K. GREENE, GEOLOGY.

INDIANA.

GENERAL DESCRIPTION.

In the first annual report of the Bureau of Statistics and Geology, a general description of the State, including the topics of soil, products, stone, coal and natural and commercial advantages, was given, which, although brief, indicated in a small degree the promise of the future.

The Bureau, in presenting their second annual report, are happy in believing that such promises are rapidly and surely ripening into reality and material wealth and comfort.

For information of intending emigrants or investors of capital a short recapitulation, and in part repetition of the natural and artificial advantages of the State is here given, by extracts from previous report, for benefit and further information of those who may not have had access to the first annual report of the Bureau.

The State of Indiana is in the form of an irregular parallelogram, bounded on the north by the State of Michigan and Lake Michigan; east by the State of Ohio; south by Kentucky and Ohio river; southwest, by Illinois. The average length from north to south is 246 miles, and its average breadth about 150 miles, with an area, exclusive of surfaces covered with water, as lakes, rivers, etc., of 22,809 square miles or 21,637,760 acres, a little over half the area of England and Wales.

When first visited by civilized man, in 1702, this region was a vast wilderness of forests and grassy prairies, occupied by nomadic tribes of savages encamped in the river valleys, without domestic animals. Wild game, as the deer, bear, birds, etc., was abundant; countless herds of buffaloes fattened on the natural meadows, and from these animals the Indians were principally clothed and fed. Originally, the favored home of the Mound Builders, as indicated by

their extensive temples, earthworks and tumuli, this territory has passed, by conquest, successively to the Miami confederation and their allies, to France, to England and the American Republic, at each transfer bringing the dower of an empire to its new master.

The first local territorial government was organized in 1800, and the State was admitted to the Federal Union in 1816, with a population of 63,897.

POPULATION OF INDIANA.

YEAR.	POPULATION.	PER CENT. OF INCREASE.
1800*.....	4,875.....	
1810*.....	24,520.....	402.97
1820.....	147,178.....	500.24
1830.....	343,031.....	133.75
1840.....	685,866.....	99.94
1850.....	988,416.....	44.11
1860.....	1,350,418.....	36.62
1870.....	1,680,637.....	24.45
1880.....	1,976,261.....	17.59

* Van Tramp's Western Empire, Etc., page 579.

Indiana has no great mountains or elevations, although some of the counties along the Ohio river and adjacent are somewhat hilly; * all the central and northern portions, or eight-tenths of the State, are level or gently undulating. Undrained areas of wet land still exist along the Kankakee and a few other rivers, which can soon be made productive by drainage. The navigable waters are the Wabash and Ohio rivers on the western and southern boundaries, and Lake Michigan at the north; innumerable brooks and streams with reliable springs for their sources, traverse every part of the State and furnish abundant water for stock, mills, etc. The general trend of the water flow is to the southwest, indicating an inclination of the surface and dip of strata in that direction.

The central and northern regions are covered with glacial or boulder drift, so deeply as to enable that deposit to act as a great sponge, taking up the rain-fall of winter and spring as a reservoir and yielding it to a million springs and the thirsty evaporation of summer.

* The hilly regions in the south and southwestern parts are not favorite agricultural districts, but have fully compensation for their superior fruitage; apples, peaches, grapes and the small fruits are characteristic, and fully recompense the seeming deficiency; the product is of superior size, flavor and color, delighting our German and French emigrants with more than memories of the fatherland. "It is a pomological paradise to those who know how to improve its advantages."

The soil, composed of local and foreign rocks, comminuted and thoroughly mingled by the powerful agencies of the ice age, is, as might be inferred, of great fertility-producing cereals, fruits and grasses, to the satisfaction of the industrious and thoughtful husbandman; while stately forests furnish an excess of timber and embellish autumnal scenes with a regal foliage blazing in scarlet, gold and crimson on a background of emerald and russet. After constant culture for half a century, without manure, for the use of manure is exceptional, this soil continues to enrich, invite and reward the present or coming citizen.

Crops of corn **(maize)* range from 10 to 80 bushels per acre, according to cultivation and management—averaging over 30 bushels per acre. On fair fields corn is often raised by contract at 12 cents per bushel delivered in granaries, the contractor bearing all expenses and work; net profits of crop from \$7.00 to \$10.00 per acre.

The current year wheat* ranges from 5 to 46 bushels per acre, averaging over 17 bushels per acre. Expenses for labor, seed, implements, harvesting (with self-binding reaper, now common), and threshing, \$6 to \$8.50 per acre; net profit about \$7 per acre.

Crops of oats* range from 10 to 50 bushels, averaging in southern counties 20 and in northern 40 bushels. Cost of seeding, harvesting and threshing, \$4 to \$6; net profits from \$3 to \$5 per acre.

Meadows produce from 1 to 2½ tons of hay per acre; average 1½ tons. Cost of mowing, care and stacking, less than \$1 per ton; profit from \$4 to \$8, according to locality of market.

Other crops, as potatoes, turnips, sugar corn, sorghum, buckwheat, rye, clover, etc., give good returns.

Apples, pears, peaches, grapes and the small fruits and berries are the home production of almost every farm, and so commonly abundant and cheap that none but an expert can afford to cultivate them for market sale.

The following are the principal, and in part new inquiries, so far as Indiana is concerned, and it is believed that some of them have never before been attempted by any State or country. The horses cattle, mules and sheep have been classified by ages, from one

*Crops of 1880 are deduced from report of 825 out of 1011 township trustees. Each trustee was directed to consult with not less than ten neighboring farmers, and make up the averages from the actual products, so that this report of crops is strengthened by the testimony of more than 8250 witnesses.

year old up to maturity and beyond, which are shown in the tables following. Only the totals for the whole State are given here:

TABLE

Showing the number and amount of some of the productions and improvements in Indiana.

Items of Production and Improvement.	Number.	Items of Production and Improvement.	Number.
Cattle.....	1,150,559	Mowers.....	14,827
Horses.....	494,809	Reapers and Mowers Combined.....	35,494
Mules.....	57,014	Horse Hay-rakes.....	25,185
Hogs.....	4,253,586	Hay Loaders and Stackers.....	6,781
Sheep.....	1,508,242	Fanning Mills.....	35,801
Dozens Chickens sold and used.....	655,161	Steam Threshers.....	2,519
Dozens Geese sold and used.....	47,567	Horse-power Threshers.....	2,178
Dozens Ducks sold and used.....	21,718	Stallions.....	4,860
Dozens Turkeys sold and used.....	58,466	Jacks.....	1,222
Dozens Guinea-fowls sold and used...	4,705	Bulls.....	15,344
Dozens Pea-fowls sold and used.....	25,622	Rams.....	17,725
Rods of Rail or Worm Fence.....	101,818,835	Boars.....	20,864
Rods of Plank Fence.....	5,445,790	Jennets.....	3,012
Rods of Post and Rail Fence.....	1,825,601	Cows.....	385,528
Rods of Stone Fence.....	141,539	Sows.....	294,393
Rods of Osage Hedge.....	1,433,520	Apple Trees—Bearing.....	6,637,611
Rods of Willow Hedge.....	78,031	Apple Trees—Young.....	3,723,811
Rods of Wire Fence.....	144,362	Peach Trees—Bearing.....	7,609,637
Rods of Barbed Wire Fence.....	192,718	Peach Trees—Young.....	776,607
Common Breaking Plows.....	128,834	Pear Trees—Bearing.....	220,943
Sulky or Riding Plows.....	8,815	Pear Trees—Young.....	237,099
One-horse Bar-shear Plows.....	46,733	Plum Trees—Bearing.....	123,554
Single Shovel Plows.....	99,469	Plum Trees—Young.....	129,498
Double Shovel Plows.....	144,803	Cherry Trees—Bearing.....	744,991
Wheeled Cultivators.....	67,631	Cherry Trees—Young.....	541,005
Two-horse Harrows.....	125,737	Crab Trees—Bearing.....	49,190
One-horse Harrows.....	14,912	Crab Trees—Young.....	52,846
Wheat or Seed Drills.....	41,584	Quince Trees—Bearing.....	44,853
Sowers or Broad-casters.....	6,676	Quince Trees—Young.....	68,740
Reapers—Drop or Rake.....	14,678	Grape Vines—Bearing.....	1,339,275
Reapers—Self-binding.....	3,013	Grape Vines—Young.....	566,106

“For the perfect growth of grasses a rich soil and perennial moisture is required, conditions which do not prevail in many other States. Indiana is the native home of “Blue grass,” *Poa pratensis*—the glory of our rich calcareous soils—an infallible “gold finder.” It forms a permanent sward, thickening with age, so that with ten or twenty years the sod will withstand the hoof of heavy bullocks even in wet weather. It grows slowly under the snow of a cold winter, but bursts into new life with the first genial days of spring, carpets the earth with productive beauty through the summer, and, if reserved for winter, cattle, horses, sheep, etc., may be well kept, except in the time of deep snows, on this food alone.”

Timber is in excess ; large forests are annually destroyed as an incumbrance in clearing farms ; great quantities of hard wood lumber, etc., are daily exported ; the most abundant growth of large trees is white, red and black oak, maple, hickory, poplar and walnut. Each of these furnishes lumber of fine texture and highly ornamental for finishing. Softer woods are so common as to be of little value, and invite manufacturers.

The Indiana coal fields embrace an area of over 7,000 square miles, offering seven workable seams at a depth ranging from 50 to 220 feet, and averaging 80 feet below the surface ; the seams vary in thickness from $2\frac{1}{2}$ to 11 feet, averaging $4\frac{1}{2}$ feet. The quality is fair to good, as shown by analyses in the Geological Reports ; an area of 600 square miles in this field yields a superior “block” or “splint” coal, which is used in the blast furnace as it comes from the mine without coking. Our block coal is rich in carbon and remarkably free from sulphur and phosphorus, and well adapted to the preparation of Bessemer steel, etc. The abundance of coal and ease of access cheapen this fuel. It may be had on every line of railway at from 5 to 10 cents per bushel, or at from \$1.50 to \$2.80 per ton.

Indiana has inexhaustible beds of fire and potter’s clay, brick clay, cement, lime, sandstone, paving stone and limestone of superior quality, with extensive mines of kaolin.

A more extended account of the quality and quantity of Indiana oolitic limestone, which is of special merit, together with a review of Indiana Portland cement, will be given in the Geological Report.

The State is traversed in every direction by a system of railways 4,963.01 miles in length, which, with the steamers on the northern lakes and the Ohio river on the south furnish cheap and rapid communication. There are 2,057 miles of toll gravel and turnpike roads, 332 miles of free gravel roads, and 53,813 miles of common roads. Many of the common roads are graveled or piked. The laws are now very favorable to the building of gravel and turnpike roads, and becoming more so at each session of the legislature.

Indiana has a larger school fund than any State in the world in proportion to population, and schools and intelligence are the safeguard of a free people.

SCHOOL STATISTICS

Compiled from the Report of the Superintendent of Public Instruction, 1880, compared with the Statistics for the Previous Year.

The report of the Superintendent of Public Instruction, for 1880, is now in preparation by Professor Smart. The following statistics of schools in the State for the past year, as compared with the year previous (1879), shows the increase of school houses, pupils (white and black), enumeration, etc. :

SCHOOL HOUSES.

1879—Stone, 85; brick, 1,997; frame, 7,452; log, 103. Total, 9,637. Value, \$11,787,705.37.

1880—Stone, 85; brick, 2,189; frame, 7,298; log, 75. Total, 9,647. Value, \$11,817,954.53.

TEACHERS.

1879—White: Males, 7,943; females, 5,532; total, 13,475. Colored: Males, 73; females, 42; total, 115. Total number of teachers employed, 13,590.

1880—White: Males, 7,731; females, 5,732; total, 13,463. Colored: Males, 71; females, 44; total, 115. Total number of teachers employed, 13,578.

ENUMERATION.

1879—White: Males, 358,919; female, 336,405; total whites, 695,324. Colored: Males, 6,349; females, 6,428; total colored, 12,777. Total enumeration, 708,101.

1880—White: Males, 354,761; females, 334,249; total whites, 689,010. Colored: Males, 7,162; females, 7,386; total colored, 14,548. Total enumeration, 703,558.

CHILDREN ATTENDING SCHOOL.

1879—Whites: Males, 262,295; females, 233,771; total whites, 496,066. Colored: Males, 3,958; females, 3,868; total colored, 7,826. Total children attending school, 503,892.

1880—Whites: Males, 265,872; females, 237,395; total whites, 503,267. Colored: Males, 4,064; females, 3,952; total colored, 8,016. Total children attending school, 511,283.

PERMANENT SCHOOL FUND, 1880.

Common school fund held in trust by counties.....	\$2,711,328 83
Non-negotiable bonds.....	3,904,783 21
<hr/>	
Total common school fund	\$6,616,112 04
Congressional township school fund.....	2,504,596 00
<hr/>	
Total.....	\$9,220,708 04

TUITION EXPENDED DURING YEAR ENDING JUNE 30, 1880.

Amount derived from State tax.....	\$1,519,791 69
Interest on common school fund held by counties.....	204,145 30
State's interest on non-negotiable bonds	234,187 00
Amount derived from unclaimed fees.....	895 22
Congressional township interest	198,247 66
Amount of local tuition tax	589,093 21
Proceeds of liquor licenses	193,512 15
<hr/>	
Total.....	\$2,939,872 23

Her school fund, school-houses, public buildings, bridges, roads and highways, churches, etc., have been built or constructed by taxation or donation. They constitute an immense commonwealth of accumulated capital, in which every new comer after a residence of six months, has a share. In some counties this fund amounts, as will be seen by the tables that follow, to a handsome sum to each acre of land, so that every person securing a farm with us, buys with his land an interest in this COMMONWEALTH.

In the newer regions of the west and south such public accumulations and improvements are yet to be made; they must be paid for by taxation, and it has been asserted that our lands are cheaper from this point of view than homesteads in a less favored regions as a gift.

CLIMATE AND COMMERCIAL RELATIONS.

ts of meteorology recorded at Indianapolis, are significant. They show that a much freer from storms, floods and such a surrounding States.

Means...	53.32°	54.40°	55.33°	55.56°	52.52°	55.26°	55.68°	52.75°	52.15°	55.04°	50.46°	53.20°	54.60°	55.40°	54.00°
<i>Mean Precipitation (Rain and Melted Snow), in Inches and Hundredths, by Months, for Fourteen Years.†</i>															
Months.....	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.			
Means.....	3.75	3.00	4.50	2.66	4.47	4.38	4.57	3.17	3.68	2.37	2.94	3.51			
<i>Annual Mean Precipitation, in Inches and Hundredths, for Fifteen Years.†</i>															
Years....	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.
Means...	50.69	52.44	48.94	46.05	42.96	35.13	34.95	37.05	53.32	43.60	54.55	56.56	51.08	38.82	42.88

†ps tables in report of State Board of Agriculture.

These tables, the result of official observations and records by trained men, show an equable temperature, free from the sudden or violent changes or excesses which debilitate and weaken vitality; also insuring exemption from epidemics and destructive plagues. It is a notable fact that malarial diseases and their derivatives, which formerly prevailed, and which so certainly exist in a new, fertile country when first improved and plowed, have in a very considerable degree disappeared. The conditions now invite labor, and crown it with health and rich returns.

The precipitation of moisture is remarkably adjusted. Winter rains and snows are not excessive; the months of April, May and June, in which vegetation vigorously grows, are, as a rule, well supplied with moisture, while the harvest months of July and August are bright and sunny.

Other parts of the world tremble at the unheard tread of advancing plagues, and fear the stealthy approach of contagious fevers, which have not penetrated our borders. From the still wilder horrors of famine, also, and its concomitants of disease, demoralization and death, the combined conditions of temperature, moisture and soil form an absolute protection to Indiana, and will always insure an ample surplus of food for export to those less fortunately located.

The peculiar commercial advantages of the State are due to natural causes. The southern boundary abuts or closely approaches the foothills of the mountains of Kentucky, over or through which railways may not offer cheap transportation; Lake Michigan forms part of the northern boundary, and stretches well up to the icy regions; hence the entire east-west commerce of the nation asks permit to cross Indiana, and willingly pays tribute with a trail of gold along each iron track. It is not only the highway of a people, but of nations. It is not unusual for cars laden with gold and silver bullion from the Pacific slope, trains filled with teas, spices and silks from China and Japan, to meet on Indiana soil other trains bearing the rich manufactures of Europe and our own country to Pacific continents and islands.

Already the central point of the nation's population, Indiana is also necessarily the pathway of her commerce, and thus becomes an unrivaled center of cheap distribution, assuring competing rates and fair prices to the laborer and the proprietor, as well as to the farmer, tradesman, miner, mechanic and manufacturer.

In recapitulation, Indiana invites farmers to her rich soil, much of which is untilled. She has unoccupied fields of enterprise for a million more.

Many branches of agriculture are neglected, as dairying and cheese making, hop growing, gathering of clover and other seeds, and sheep husbandry.

To the manufacturer and mechanic she offers cheap, healthy homes, cheap food and clothing, cheap fuel, and a good market.

To the grazier, she offers her native Blue-grass, and ample returns.

Unimproved lands may be bought at from \$10 to \$20 per acre, and even at lower prices in the southwestern part; improved farms at from \$20 to \$60 per acre. With the latter, a practical farmer, who can pay one-fourth of the purchase money down, may, with economy and management, make the deferred payments from the profits of the farm within five years.

The succeeding report of lot and landholders exhibits a regular annual increase in the number of holdings, and shows that large farms are willingly divided and that young men are constantly being enabled by their industry and economy to become proprietors.

The population increased about two and one-half per cent. per annum from 1870 to 1879, while the land owners have increased in number from 1875 to 1879 about five per cent. per annum. Putnam county, which is in all its conditions perhaps about an average county, shows the number of land owners as follows: 1875, 3,368 land owners; 1876, 3,451 land owners; 1877, 3,529 land owners; 1878, 3,625 land owners; 1879, 3,750 land owners.

Many of the owners of large farms have more land than capital, and would be glad to sell a portion of their property at moderate prices, especially to practical, energetic husbandmen.

Emigrants will succeed best who have a capital of from \$1,500 to \$2,000 or \$3,000 to commence with.

The rate of taxation, except for State purposes, is under the immediate control of local officers, who are elected to serve from one to three years, so that it is virtually optional with the people what their tax shall be. If turnpikes, railroads, canals or public buildings are to be made at the public expense, they are preceded by the petition or vote of a majority of the tax-payers, who have an estimate of the rate and aggregate amount of tax before they ratify it

with their vote. The returns to the Bureau of Statistics show the rate per one hundred dollars valuation to be about one and a half dollars for all ordinary purposes, and in some localities, where road or other improvements are being made, it may reach as high as three dollars on each hundred dollars valuation limited to two years or until such improvements are finished.

Further particulars as to production, public expenditures, taxation, geological description and paleontology, with maps, plates and cuts, are continued in succeeding pages of this report, indicating the condition of the State for 1880.

IMPORTANCE OF STATISTICS AND GEOLOGY.

Statistics are land-marks of progress; indicators on the dial of time, recording achievements or reverse; measures of past efforts and their promise for the future. As sure as effects are the result of causes, so with known motors and conditions the economist may wisely predicate events and results. Their value is not limited to the private enterprise of the business expert. The statesman, who would carefully enact laws, which do the greatest good to the greatest number, desires the broadest information to assure wise legislation. Embodied "law is a rule of reason," founded on experience. A simple fact is but a grain of sand on the beach—a drop of water in the river. Many grains of sand or drops of water make out or limit the great phenomena of the globe. So many facts aggregated establish rules of action, and such rules clustered make up the axioms of political economy, as well as of physical science.

Wrecks guard the mariner from shoals and rocks; ruins and disasters are wards against folly and unthrift; but not less assuring are the comforts of prosperity. Success begets success, and the past mapped out for a people protects, cheers, and in effect achieves.

Statistics, if well gathered, measures productions and weighs values; indicates results by years of experience, and makes the future a matter of certain calculation, when continued through an extended time; and, to bring the subject to its plainest form of common sense, the business house which takes account of stock, and often balances books, acts knowingly, and generally with safety; one which does not is grasping for disaster and ruin.

The law of the individual is as well the law of states; and the statesman enacts wisest, who, guided by the widest experience of himself and others, is endowed with the broadest field of vision.

Our sister states claim good returns for many dollars expended in statistical reports. Geology is a matter of science founded on facts, which have been collected by the persistent labor of an army of students. A hundred, a thousand, often a million facts in fossil life are gathered to make one rule ; a congregation of truths without contradiction are laws, and a number of such laws agreeing and pointing centrally to the same result, constitutes science. Science unsupported or contradicted by fact fails, and is nothing but unsubstantial theory. The book of nature is but partly read ; much has been achieved ; much more remains to be learned ; the achievements of the last fifty years in geology surpass the labor and thought of centuries. There is a rich and inviting field of labor in our State.

It does not seem just that the fossils which determine the rocks of Indiana should be unknown or imperfectly studied ; other States have reaped a rich reward by fully figuring and describing their paleontology and mineral wealth. Our students should have equal opportunities, which can only be attained by geological reports of every county in the State, illustrated with cuts and figures fully exhibiting the paleontology as well as the geologic features, and surely the students of Indiana ought not to be compelled to rely, as is now the case in paleontology, on the expensive and almost unattainable works of other States for a knowledge of their own fossils.

The labor of former State Geologists of Indiana has added much to the wealth of the State, in addition to their contributions to science. To a land-holder who remarked, " We know that we have plenty of coal and stone without the help of a geologist," the question was asked, " Why did you not work such rich deposits ?" The answer was, " We have not the capital and skill." " Why do you not tell those who have the capital and skill ?" His reply was " We have done so." " Did they believe your statement ?" The common answer is, " No ; for they considered us interested witnesses and would not believe or invest." Such conditions are common. On the other hand, a geologist clothed with authority is armed with the dignity of the State ; closely adhering to the facts susceptible of demonstration his reports are received with full faith and credit until the contrary is shown.

It is believed that the interest of the State will be advanced a thousand fold on the cost by continuing in the future to discover and

advertise to the world its mineral wealth and the resources of the forest, fields and mines for the future as it has in the past.

A case in point is the rapid development and increase in value of the taxable property in the counties in the western portion of the State containing coal, the location and value of which was mainly discovered, described by analysis and officially advertised to the world by former State Geologists.

Take the counties of Warren, Fountain, Parke, Vermillion, Vigo, Clay, Owen, Greene, Sullivan, Knox and Daviess, containing 2,852,871 acres, which counties have been reported on by geological survey, and compare them with the following previously more favored counties of Dearborn, Ripley, Decatur, Rush, Fayette, Union, Wayne, Henry, Randolph, Ohio, Switzerland, Jefferson, Jennings and Jay, containing 2,842,678 acres, only 10,193 acres less than the coal counties.

Localities.	Acres.	Total Valuation in 1854.	Total Valuation in 1860.	Total Valuation in 1865.	Total Valuation in 1870.	Total Valuation in 1875.
Western Counties...	2,852,871	\$35,059,263	\$55,470,906	\$71,584,568	\$81,404,561	\$101,632,599
Eastern Counties....	2,842,678	64,039,295	80,570,231	100,279,257	110,704,745	122,958,096

The per cent. of increase for the same period shows as follows:

Localities.	Per cent. of Increase to 1854.	Per cent. of Increase to 1860.	Per cent. of Increase to 1865.	Per cent. of Increase to 1870.	Per cent. of Increase to 1875.
Western Counties	58 per cent.	29 per cent.	13 $\frac{2}{3}$ per cent.	25 $\frac{1}{4}$ per cent.
Eastern Counties..	26 per cent.	24 $\frac{1}{2}$ per cent.	8 $\frac{1}{2}$ per cent.	13 1-5 per cent.

Total valuations all over the State decreased from 1875 to 1880, and the coal region suffered by the closing of manufactories and other coal consuming establishments. The counties containing coal are not all developed. The per cent. of increase in Clay county will best illustrate what may be ultimately expected of the other counties.

CLAY COUNTY.

Years.....	1854.	1860.	1865.	1870.	1875.
Valuation.....	\$1,556,094	\$3,354,372	\$4,130,859	\$5,154,562	\$7,664,216
Per cent. of increase.....	.....	115 $\frac{1}{2}$	23 $\frac{1}{6}$	24 $\frac{1}{2}$	49

Without doubt many other portions of the State possess undiscovered mineral which the present wants and the future must have.

The following table shows the details from which the foregoing deductions were derived:

Counties.	Acres.	1854.	1860.	1865.	1870.	1875.	1880.
Warren.....	229,915	\$3,011,779	\$3,962,626	\$5,947,970	\$6,442,135	\$7,648,538	\$5,562,020
Fountain.....	250,120	3,988,035	5,553,085	6,979,335	6,785,985	8,990,324	7,283,107
Parke.....	279,313	4,184,680	6,899,905	8,152,900	9,998,325	10,941,891	9,188,467
Vermillion.....	153,576	2,673,050	3,119,107	4,465,453	4,781,260	5,882,165	5,058,609
Viigo.....	252,986	7,401,023	10,037,308	15,792,720	16,472,940	24,281,355	21,950,670
Olay.....	224,271	1,556,094	3,354,372	4,130,859	5,152,564	7,664,216	5,104,541
Greene.....	840,757	2,280,663	4,230,672	4,820,694	6,137,205	6,785,023	5,090,633
Owen.....	246,320	2,711,666	4,256,661	5,189,110	5,667,785	5,946,775	4,941,555
Sullivan.....	285,081	2,247,817	4,423,010	5,097,630	6,300,005	6,588,857	6,411,840
Knox.....	319,887	3,148,021	5,945,640	6,933,260	8,211,760	10,295,295	10,099,255
Davless.....	270,645	1,856,435	3,688,570	4,374,637	5,454,597	6,671,160	5,837,199
	2,852,871	35,059,263	55,470,906	71,584,568	81,404,561	101,632,599	86,022,896
Dearborn.....	192,837	7,273,540	6,686,690	9,439,250	8,713,280	8,976,142	8,147,040
Ripley.....	279,762	2,686,210	3,878,620	4,113,845	4,000,340	4,091,501	3,837,710
Decatur.....	239,360	4,694,353	7,011,537	8,823,446	10,000,000	9,992,931	9,285,787
Rush.....	251,942	6,405,604	8,613,795	10,069,290	12,617,665	13,236,945	11,952,830
Fayette.....	185,817	5,228,170	5,765,670	6,542,915	7,851,290	8,047,695	6,841,182
Union.....	104,402	2,799,265	3,776,435	4,747,845	4,629,090	5,101,880	5,025,410
Wayne.....	220,161	8,962,810	14,683,237	18,303,745	21,285,210	23,869,913	23,003,242
Henry.....	247,472	5,470,580	8,113,970	9,848,580	11,041,320	13,933,120	11,494,028
Randolph.....	284,177	3,020,589	5,549,993	7,642,575	8,188,140	11,797,616	10,702,325
Ohio.....	54,125	898,793	1,534,045	1,747,966	1,688,143	1,904,488	1,702,480
Switzerland.....	139,774	2,139,819	2,641,155	3,694,630	3,683,005	3,979,518	3,154,745
Jefferson.....	229,726	10,645,938	6,679,235	7,966,850	9,216,291	8,958,504	6,540,639
Jennings.....	220,349	2,373,589	3,562,295	4,163,960	4,430,216	8,606,938	2,952,251
Jay.....	242,774	1,440,085	2,078,555	3,119,360	3,360,755	5,969,905	5,686,535
	2,842,678	64,039,295	80,570,232	100,279,257	110,704,745	122,958,096	110,276,204

WORK OF THE BUREAU.

A statement as to the organization of the Bureau was given in the first annual report for 1879. The personelle has undergone but little change as is shown by the roster. The limited amount of the appropriation has required an almost miserly economy; and the difficulties and defects in the law appeared to legal advisers even greater than was discovered during the first year's operation.

The Bureau was authorized to call on many officials and parties, nearly all of whom had little or nothing official to communicate, while no specific authority was given to call on the various county officers and others who were constantly accumulating facts which made up the showing of the State's wealth and industry.

It was consequently found necessary to depend on the good will and public spirit of these gentlemen, with a firm reliance on the sustaining power of public opinion; never was such confidence better placed. The county auditors, treasurers, clerks and recorders, and the township trustees and assessors responded, as a rule, with a noble alacrity—sacrificing days, even in some cases months of toil, doing honor to themselves and the intelligence of the people who elected them to office—for the community may often be valued according to the character of those who, as the result of the elective franchise, represent them.

The Bureau mentions these difficulties in part to bear testimony to the unselfish public spirit of such officers, to thank and commend them to the good will of their constituents, but also to invite the attention of legislators to such action as in their wisdom they may deem best to make the Bureau efficient.

The success of the Bureau in gathering statistics the first year, far beyond that of our sister States in their first year, extended its labors with a full clerical force several months beyond the close of

the last financial year, and a consequent expenditure of money; the available resources has, therefore, been limited during 1880 to this extent.

Lines of research necessarily incomplete in 1879 will be found largely extended, as the tables of Land and Lot Holders, Records', Treasurers' and Turnpike Road returns.

The agricultural reports, thanks to the official action of General M. D. Manson, Auditor of State, and his faithful deputy, John H. Piercy, for their effective aid, are such as the State may well be proud of; they cover many grounds of research not heretofore studied by our sister States, but which constantly engage the attention of political economists and statesmen. It is believed that besides the leading agricultural productions, the minor household comforts, as orchards, gardens, fruits, etc., will be of instructive interest, and that legislators may well consider the subject of fences and hedges worthy their attention.

The table of county expenses has already proven an horizon of advice to County Commissioners, in some degree repaying the whole cost of the Bureau. The Commonwealth table is repeated in this report; it shows the accumulated public wealth, including turnpikes, railways, etc., which, nominally private property, but making little or no returns to stockholders, really are a contribution to the commonwealth. Separate columns indicate the distributive share which attaches to each voter and each acre of land in the State. These accumulations are necessities of civilization; must be paid for by donation or taxation in newer or slower communities; hence, in inviting strangers to Indiana, it has been claimed that it is cheaper to purchase our lands at current rates than to accept homesteads as a gift in the unimproved wilds.

Provision for preservation of social, sanitary and vital statistics is defective or nothing. Further legislation is needed.

Deductions which lead to strife and argument are avoided. Facts alone are presented, from which the politician and economist may reckon the present and predicate the future.

Some of the other States of the Union have severally appropriated for bureaus of statistics, health, agriculture and various other commissions, sums ranging from \$4,000 to \$50,000 per year when a wide field was to be worked. The annual sum appropriated by Indiana for statistics and geology and kindred matters is \$3,700. The Bureau have endeavored to the best of their ability to secure

a full showing, regretting that they could not do more. They feel gratified that their first report has met a reception favorable beyond their highest hopes. While four newspapers in the State have criticised, finding severe fault that their local statistics were not complete (caused by the neglect or refusal of their several offices to report), yet, from the general press of Indiana and of our neighbors of Ohio, Illinois and Kentucky, favorable notices and extended reviews have been freely given. Still more highly has the labor of the Bureau been commended by the statistical and commercial press of New York, Massachusetts, New Jersey, Scotland, England and other European countries.

Letters of comment and congratulation have been received from many of the most distinguished and thoughtful students of statistics and science in the country. The Bureau will be satisfied if its labors shall have added to the fair name and just repute of the State of Indiana.

FORMS, CIRCULARS, LETTERS, Etc.

The preparation, printing and mailing of circulars, blanks, forms, etc., so numerous and various that space does not allow their exhibition here; the time involved in reading, filing and tabulating reports, and in reading and answering letters may be judged by the following table of circulars and forms sent out in relation to statistics for the fiscal year 1880, and letters received during same time:

2,000	No. 10 envelopes.
100	printed postals.
25	printed board cards.
350	No. 10 blanks, ruled and figured.
1,000	printed postal cards.
100	forms to turnpikes.
250	forms No. 1 to Auditors.
250	forms to Recorders.
100	postal cards printed for Treasurer.
1,200	forms to Township Trustees.
307	letters from various societies and individuals pertaining to the work of the Bureau.
343	letters from officials in the State concerning statistics alone.
56	letters received from officials, societies and persons without the State about Geology, etc.
80	letters criticising and complimenting the re- port of 1879, etc.

The number of letters and postals written and sent out by the Bureau has not been counted, but they would more than double the number received, as many of them contained instructions and suggestions and did not require answers.

The Chief of the Bureau has been fully employed with general direction of affairs and in devising modes of work and forms for inquiry. This work, combined with continual, almost daily demands for oral or written opinions on questions pertaining to Natural History, Archeology and Geology, including building stone, cement, coal, coal mines and shafts, coal fields and their development, lime, manure, railway routes, quarries, etc., will indicate an extensive and exacting line of duty.

He desires most respectfully to suggest that a good statistician is rarely a geologist, and that still more rarely is a geologist a statistician. The lines of thought and duty are so widely divergent that it seems desirable that Indiana should have one who could devote his whole attention to geology, while another should follow with trained effort statistical researches.

First Assistant John T. Campbell has continued the work so well begun by him the previous year. He has had charge of the routine work of the statistical division, receiving, filing and answering correspondence as to forms, circulars, etc., also the preparation of blanks for tabulation and the descriptive titles and explanatory notes to the different tables. He has performed his work with patient effort and ability, directed by an extensive study of statistical matters and methods.

T. A. Lloyd was employed, but a short time after the returns for the present report were ready for tabulation, he assisted in distributing the last report, and made part of the table on County Expenditures, when he accepted a position in the Bradstreet commercial agency.

H. B. Davis prepared the tables showing total value of horses, mules and breeding animals in the State; acres of clover, clover hay, blue and wild grasses; the product of sheep, poultry, bees and cows; the acres of ground sown, planted and set for the crops of 1880; also the acres of melons, cabbage, beans, onions, berries, orchards, etc.; the taxable valuation of real and personal property in 1876 and 1880; and the classification of records by recorders.

Thomas G. Woollen prepared the tables showing the number of agricultural implements, rods of fence, amount of poultry consumed or sold, and acres and bushels of wheat, corn, oats and rye, with increase or decrease from 1877 to 1880; also the acreage and tonnage of meadows and hay, the gallons of cider, vinegar, wines, etc., and the apple and peach crop of 1880.

W. A. Brouse finished the table on County Expenditures, left by Mr. Lloyd, and prepared the tables showing the acres, bushels and bushels per acre of wheat, corn, oats rye and barley for 1880, by townships; also the acres, tons and tons per acre of hay, Irish and sweet potatoes and tobacco, and the table showing number of horses, mules, cattle, hogs and sheep, by townships, and number of breeding animals; also the table showing the diseases and deaths among stock in 1880; the table on turnpikes, and the table showing the acreage and amount of Irish and sweet potatoes, tobacco and buckwheat for 1879, and the acreage of clover, flax and hemp seed sown in 1879.

The article on "Drainage for Profit," by Hon. J. J. W. Billingsly, is to the point and worthy of careful consideration. A report on flax culture, etc., by Hon. I. D. G. Nelson, will invite the attention of farmers and manufacturers; it presents facts which will interest the public. To the report of the State Health Commissioners is added papers on subjects which are of home interest to our people. The papers from the same source in the last report have met with much favorable comment.

Under directions of His Excellency, Governor James D. Williams, 10,000 copies of a "General Description of Indiana," extracted from the first annual report of the Bureau, was republished for foreign distribution, with an addition of remarks on taxation and land-holdings, and presenting geological, railway and school-house maps of the State. These have been distributed as a rule to individuals in the New England States, Michigan, New York, New Jersey, Delaware, Maryland, North Carolina, Tennessee, Kentucky, Ohio and Pennsylvania, and in Canada, England, Scotland, Ireland and Germany. Total expense, including distribution paid from the Governor's contingent fund, was \$325. Economists have found that the average emigrant brings with him \$200 in cash, and

that the annual net product of his labor may be estimated as the basis of from \$1,000 to \$5,000 permanent capital or state wealth. Should this widely-scattered pamphlet direct the attention of even a few hundred or a thousand people to our State with new industries, it will easily be seen that the returns will be ample. It is respectfully suggested that the State could profitably expend \$2,000 per annum under the direction of the Governor, in fairly presenting the advantages Indiana offers in soil, climate, forests, fruits and minerals, to the thrifty emigrant from Europe or the Eastern States, who pass in a constant stream by our doors to the less inviting wilds and plains in the West. Many of our sister States have a special commission for this purpose. Indiana might profit by their example and success.

The act creating this department constituted the chief of bureau "curator of the geological cabinet, museum," etc., and made it his duty to "from time to time, as may be practicable, add specimens to the cabinet of minerals, organic remains and other objects of natural history peculiar to the State and other States and countries."

The cabinet heretofore collected was mostly in boxes in the cellar of the State building, little or none of it labeled or cleaned. In asking its transfer from the State Board of Agriculture, it was suggested that the fossils, specimens, etc., should be listed so as to definitely determine the amount so turned over, and the necessity was apparent that, for an intelligent transfer and use to the students of the State, the specimens should be carefully determined, labeled and properly placed in cases. In answer to the question of the State Board of Agriculture, "How shall the Board of Agriculture proceed in transferring the museum to the Bureau of Statistics?" Attorney General Woollen, on December 10, 1879, answered, "I think under the law it is the duty of the board to transfer the museum to the curator. In doing so I think you are authorized to use any unexpended balance in your hands for the Geological Department, under direction of Professor Collett, in arranging, classifying and labeling the specimens as shall be necessary to place the museum in proper condition for the intelligent and orderly transfer to the curator."

Pursuant to this opinion of Attorney General Woollen, George K. Greene has been employed in arranging, classifying and labeling the specimens. He has performed his duty with fidelity and skill,

and has arranged more than one-half of the cabinet. It will require a large amount of labor to complete the work and several new cases to make the cabinet fully instructive to the students and people of the State.

Mr. Green's report under title of "Cabinet and Museum" shows the number of specimens received of State Board from former Department of Geology and the additions since made by donations, collections or by purchase, the whole amounting to over 20,000 specimens. The Geological work of the Bureau and Natural History and Archeological examinations will be given under their appropriate titles hereafter.

ACKNOWLEDGEMENTS.

First acknowledging the unanimous good will and support of the people of the State, the Bureau has pleasure in returning its heartiest thanks to Governor J. D. Williams for uniform and earnest support and co-operation; his help has been as constant and faithful as the warmest friend could desire; other officers of the executive department have freely aided. The favors rendered by Gen'l M. D. Manson, Auditor of State, and Deputy John H. Piercy, have already been mentioned. The Bureau attributes much of their success to the continued patient and willing concert of action of these official friends.

To Attorney General Woollen, the Bureau is indebted for legal opinions and advice so necessary in commencing a new work without example or precedent. All the other officers of the State, especially the State Librarian, have acted with uniform kindness, freely affording all the help in their lines of duty.

Earnest thanks are returned to the editors of the State, especially those who, in criticising, have assisted by directing attention to future efforts. The Indianapolis papers have rendered aid worthy such guardians of the public welfare, and John B. Connor, author of the law, and editor of the Indiana Farmer, has been constant in wise advice. Acknowledgement has already been made to county auditors, clerks, treasurers and recorders, and township trustees and assessors.

With the support of all these officers and friends, and the good will of the people, this report is made, and to your excellency respectfully submitted.

BOOKS AND PAMPHLETS.

The following is a list of books and pamphlets received by the Bureau for its Library since last report, and the names of the parties donating the same so far as known :

- No. 635. Report on Statistics of Labor, Massachusetts, 1879.
- No. 636. Report on Statistics of Labor, Ohio, 1877.
- No. 637. Report of Department of Agriculture, Washington, D. C. Alex. Heron.
- No. 638. Report of Indiana Reformatory Institutions, 1879.
- No. 639. Report of Indiana State Normal School, 1879.
- No. 640. Report of Indiana House of Refuge, 1879.
- No. 641. Report of Indiana Asylum for Feeble Minded Children, 1879.
- No. 642. Report of Indiana Purdue University, 1879.
- No. 643. Report of Indiana Asylum for the Insane, 1879.
- No. 644. Report of Indiana State Prison North, 1879.
- No. 645. Report of Indiana State Prison South, 1879.
- No. 646. Report of Board of Management Deaf and Dumb, 1879.
- No. 647. Report of Trustees of Blind Asylum, 1879.
- No. 648. Report of Farm Statistics of Michigan, 1878-9.
- No. 649. Report (Quarterly) State Board of Agriculture, Kansas, March, 1880.
- No. 650. Report (First Annual) Labor Statistics of Missouri, 1879.
- No. 651. Bulletin of the Museum of Comparative Zoology, 1880.
- No. 652. Brachiopoda, by Barrande, 1879.
- No. 653. "Verslag," 1877.
- No. 654. "Jahresbericht No. 33, by Pollichia," 1875.
- No. 655. "Jahresbericht No. 34-5, by Pollichia," 1877.
- No. 656. "De Openbare Werken in Nederland," 1876.
- No. 657. "Natuuskundig Tijdschrift Voor Nederlandsch—Indic XXXIV.," 1874.
- No. 658. "Natuuskundig Tijdschrift Voor Nederlandsch—Indic XXXVI.," 1876.

- No. 659. "Natuuskundig Tijdschrift Voor Nederlandsch—Indic XXXVII.," 1877.
- No. 660. "Natuuskundig Tijdschrift Voor Nederlandsch—Indic XXXVIII.," 1879.
- No. 661. "Natuuskundig Tijdschrift Voor Nederlandsch—Indic XXXV.," 1875.
- No. 662. "Publications De L'Institut Royal, Grand Duke De Luxemburg, XVII." 1879.
- No. 663. "Archives Néerlandaises Desscrerices Exactes et Naturalles. E. H. Von Baumhaner." 1879.
- No. 664. "Archives Néerlandaises Desscrerices Exactes et Naturalles. E. H. Von Baumhaner. (5 Liuraisan.) 1879."
- No. 665. "Om Floran—Skanes Kalferande Bildningar of A. C. Northorst, II. 1878.
- No. 666. "Om Floran—Skanes Kalferande Bildningar of A. C. Northorst, I. 1879.
- No. 667. "Serviges Geologiska Undersakuing Beskrifning till Kartbladet Lessebo.
- No. 668. "Serviges Geologiska Undersakuing Beskrifning till Karstbladet Olmsted."
- No. 669. "Serviges Geologiska Undersakuing Beskrifning till Kartbladet Linderod."
- No. 670. "Serviges Geologiska Undersakuing Beskrifning till Kartbladet Hjulsjo."
- No. 671. "Serviges Geologiska Undersakuing Beskrifning till Kartbladet Norrkoping."
- No. 672. "Serviges Geologiska Undersakning Beskrifning till Kartbladet Moja."
- No. 673. "Serviges Geologiska Undersakning Om Faunan. J. Lagren, Med. Paradoxie Olandeijs."
- No. 674. "Jakttagelser Ofver, De Graptolitforande Skiffrarne J. S. Käne."
- No. 675. "Praktiskt Geologisk Undersokmingar Irson Herjedalen ach Jerutsland."
- No. 676. "Practiskt Geologiska Jakttagelser vnder Resor på Gotland," 1876-8.
- No. 677. "Om Farman J. Kalken, Med. Conochoraphe Exsulans."
- No. 678. Reports of the Mining Surveys and Registers, quarter ending September 30, 1879.
- No. 679. Report of State Board of Agriculture of Kansas, quarter ending December 31, 1879.
- No. 680. History of Chicago, by William Bross.
- No. 681. Report of St. Andrew's Society, Illinois. 1875-6.
- No. 682. Report of St. Andrew's Society, Illinois. 1876-7.
- No. 683. Report of St. Andrew's Society, Illinois. 1877-8.
- No. 684. Report of Special Commission on Labor, Illinois. 1879.
- No. 685. Railroads of Chicago. 1872.
- No. 686. Inter-state Industrial Exposition, Chicago. 1878.
- No. 687. Chicago Historical Society. 1868-77.
- No. 688. Report Superintendent of Police, Chicago (riots). 1877.

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- No. 689. Biographical Sketch of General B. J. Sweet. 1878.
No. 690. Chicago and Her Resources, etc. 1880.
No. 691. Report of South Park Commissioners, Chicago. 1880.
No. 692. Report of Lincoln Park Commissioners, Chicago. 1878.
No. 693. Report of West Park Commissioners, Chicago. 1879.
No. 694. Report of Statistics, Cook County Jail (Kearn). 1877.
No. 695. Biography of Hon. George Monierse, of Chicago. 1878.
No. 696. Father Marquette's Lectures. 1878.
No. 697. Right of Eminent Domain. 1871.
No. 698. Report of Canal Commission, Illinois. 1878.
No. 699. Report of Public Charities, Illinois. 1878.
No. 700. Constitution of Illinois. 1870.
No. 701. Message of Governor Beverly, Illinois. 1877.
No. 702. Message of Governor Beverly, Illinois. 1879.
No. 703. Military Code of Illinois (General Regulations). 1879.
No. 704. Report of Fire Marshal of Chicago. 1875.
No. 705. Report of Fire Marshal of Chicago. 1876.
No. 706. Report of Fire Marshal of Chicago. 1877.
No. 707. Report of Fire Marshal of Chicago. 1878.
No. 708. Report of Board of Education, Chicago. 1872.
No. 709. Report of Board of Education, Chicago. 1873.
No. 710. Report of Board of Education, Chicago. 1874.
No. 711. Report of Board of Education, Chicago. 1875.
No. 712. Report of Board of Education, Chicago. 1876.
No. 713. Report of Board of Education, Chicago. 1877.
No. 714. Report of Board of Education, Chicago. 1878.
No. 715. Report of the Finances of Chicago. 1876.
No. 716. Report of the Finances of Chicago. 1877.
No. 717. Report of the Finances of Chicago. 1878.
No. 718. Report on Agriculture, Illinois, Vol. 14. 1876.
No. 719. Report on Agriculture, Illinois, Vol. 15. 1877.
No. 720. Report of Board of Health of Chicago. 1870-3.
No. 721. Report of Board of Health of Chicago. 1874-5.
No. 722. Report of Board of Health of Chicago. 1877.
No. 723. Report of Board of Health of Chicago. 1878.
No. 724. Laws of Illinois. 1875.
No. 725. Laws of Illinois. 1877.
No. 726. School Report of Illinois. 1877-8.
No. 727. Report of Asylum for Feeble-minded Children, Illinois. 1878.
No. 728. Report of Soldiers' Orphans' Home, Illinois. 1878.
No. 729. Report of Eye and Ear Infirmary, Illinois. 1874.

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- No. 730. Report of Eye and Ear Infirmary, Illinois. 1877.
- No. 731. Report of Eye and Ear Infirmary, Illinois. 1878.
- No. 732. Report of Blind Asylum, Illinois. 1878.
- No. 733. Report of Normal University, Illinois. 1878.
- No. 734. Report of Deaf and Dumb Asylum, Illinois. 1878.
- No. 735. Report on Insane Asylum (Jacksonville), Illinois. 1878.
- No. 736. Report on Insane Asylum (Anna), Illinois. 1878.
- No. 737. Report of State Board of Health, Illinois. 1878.
- No. 738. Report of Secretary of State, Illinois. 1878.
- No. 739. Report of State House Commissioners, Illinois. 1878.
- No. 740. Report of Women's Christian Temperance Union, Illinois. 1878.
- No. 741. Report of Chicago Relief Committee, I. O. O. F., Illinois. 1873.
- No. 742. Report of State Reform School, Illinois. 1878.
- No. 743. Report of Commissioners of Penitentiary, Illinois. 1878.
- No. 744. Report of Commissioners of Penitentiary (South), Illinois. 1878.
- No. 745. Report of Superintendent of School, Cook County, Illinois. 1872.
- No. 746. Report of Superintendent of School, Cook County, Illinois. 1878.
- No. 747. Report of Superintendent of School, Cook County, Illinois. 1879.
- No. 748. Report of Normal School, Cook County, Illinois. 1877-8.
- No. 749. Report of Garrett Biblical Institute, Illinois. 1879.
- No. 750. Report of Normal and Training School, Illinois. 1879.
- No. 751. Report of Department Public Works, Chicago, Illinois. 1876.
- No. 752. Report of Department Public Works, Chicago, Illinois. 1877.
- No. 753. Report of Department Public Works, Chicago, Illinois. 1878.
- No. 754. Report of "Das Museum Ludwig Salvator, in Ober-Blisewitz vie Dresden."
- No. 755. "Bucher—Verzieckmiss—Von R. Freidlaender & Sohn."
- No. 756. Report of Auditor Public Accounts, Illinois. 1878.
- No. 757. Report of Department Agriculture (National). 1855.
- No. 758. Report of Department Agriculture (National). 1857.
- No. 759. Report of Department Agriculture (National). 1858.
- No. 760. Census of Massachusetts, Vol. 1. 1875.
- No. 761. Census of Massachusetts, Vol. 2. 1875.
- No. 762. Census of Massachusetts, Vol. 3. 1875.
- No. 763. Report on Agriculture of Massachusetts. 1879-80.
- No. 764. Report of Geological Survey of Victoria. 1878.
- No. 765. Pennsylvania 2d Geological Survey (Mercer County). Q. Q. Q.
- No. 766. Pennsylvania 2d Geological Survey (Lawrence County). Q. Q.
- No. 767. Pennsylvania 2d Geological Survey (Permian Flora). P. P.
- No. 768. Geology of Wisconsin, Vol. III. 1873 to 1879.
- No. 769. Tea Culture—Wm. Saunders, Department Agriculture. 1879.
- No. 770. Congress—International of American States. 1879.

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- No. 771. Sitzungs—Berichte der Naturwissen, Schaftlicken, Gesellschaft, Isis in Dresden.
- No. 772. Takio Diagaku (or University Takio.)
- No. 773. Statistical Abstract of the United States. 1879.
- No. 774. Census of Massachusetts (Compendium). 1875.
- No. 775. Produce Exchange, N. Y. 1879.
- No. 776. Report Internal Affairs, Pennsylvania. 1879.
- No. 777. Indiana Agricultural Report. 1878.
- No. 778. Report on Chinch Bug., (Cyrus Thomas). 1879.
- No. 779. Report St. B'd Agr., N. Y. 1879.
- No. 780. Report of Statistics of Labor, Ohio. 1879.
- No. 781. Report of Commerce and Navigation. 1879.
- No. 782. Congressional Directory, 46th Congress. 1879.
- No. 783. Experiments in Agriculture in N. C. 1879.
- No. 784. Report of Statistics of Ohio. 1879.
- No. 785. Report on Iron and Steel, by Wm. P. Blake. 1876.
- No. 786. Report Committee on Navigation, (Dup.) 1879.
- No. 787. Statistical Abstract of the U. S., No. 2. 1879.
- No. 788. Census of Michigan (remarks on). 1874.
- No. 789. Report of County Board of Agriculture. 1879.
- No. 790. Address American Society Civil Engineers. 1880.
- No. 791. Report of Cooper Union, New York. 1880.
- No. 792. Report Labor Statistics Missouri. 1879.
- No. 793. Census of Massachusetts (Duplicate). 1875.
- No. 794. "Sitzungs, Berichte, der Naturwissen, Schaftlichen Gessellschaft Isis in Dresden." 1879.
- No. 795. Report Michigan Pomological Society. 1879.
- No. 796. Report Department Agriculture, Illinois. 1878.
- No. 797. Report Department Agriculture, Massachusetts. 1879.
- No. 798. Statistical Abstract U. S., No. 1. 1878.
- No. 799. Statistical Abstract U. S., No. 2. 1879.
- No. 800. Report Wisconsin Board of Health. 1878.
- No. 801. Report Wisconsin Board of Health. 1879.
- No. 802. Report of Commerce and Navigation. 1878.
- No. 803. Report of Commerce and Navigation. 1879.
- No. 804. Report of Internal Commerce, United States. 1879.
- No. 805. Journal Military Service Institution, United States. 1880.
- No. 806. New Capital and Laying of the Corner Stone of New State House, Indiana. 1880.
- No. 807. Report of Smithsonian Institution. 1878.
- No. 808. Report on Agriculture, Kentucky. 1880.
- No. 809. Visitors' Guide to Salem, Mass. 1880.

- No. 810. History of Pacific Guano Company. 1876.
 No. 811. Sales of Pacific Guano Company. 1879.
 No. 812. Sales of Pacific Guano Company. 1876.
 No. 813. Sales of Pacific Guano Company. 1880.
 No. 814. Estadistica Commercial Republica De Chili. 1878.
 No. 815. Report of Chilean Statistics. 1878-9.
 No. 816. History of Events Leading to a Declaration of War Between Chili and Peru.
 No. 817. Quarterly Report Bureau of Statistics Treasury Department. 1880.
 No. 818. Tea Culture, by William Saunders.
 No. 819. Report on Price of Farm Animals. 1880.
 No. 820. Report on Culture of Sumac in Sicily. 1880.
 No. 821. Department of Agriculture—Report on Crops. 1879.
 No. 822. Department of Agriculture—Report on Crops, quarter ending December 1, 1879.
 No. 823. Department of Agriculture—Report on Crops, quarter ending April 1, 1880.
 No. 824. Department of Agriculture—Report on Crops, quarter ending July 1, 1880.
 No. 825. Department of Agriculture—Report on Crops, month ending August 1, 1880.
 No. 826. Department of Agriculture—Report on Crops, month ending September 1, 1880.
 No. 827. Report on Sorghum Sugar Cane, Agriculture, 1880.
 No. 828. Books from Sweden and Norwegian Legation.

LIST OF SPECIMENS RECEIVED AT STATE MUSEUM SINCE FEBRUARY 1, 1880.

- Feb. 9. Gorget and Arrow Points. A. Messmore, Kosciusko county, Indiana.
 July 7. Specimens of Silver, Lead and Copper Ores, Antimony, etc. Solon M. Allis, Tucson, Arizona Territory.
 Aug. 25. Bog Iron Ore, from Carroll county. Presented by Samuel W. Barbour, Franklin county.
 Sept. 5. Dendrites. Ball Mountain, Black Hills, Dakota Territory. A. C. Harvey, Indianapolis, Indiana.
 Sept. 11. Chert and Limestone from Texas. Presented by M. Steele, Indianapolis, Indiana.
 Oct. 8. Specimen of Devonian Limestone. A. T. Sharp's quarry, Kokomo, Indiana.
 Oct. 9. Upper Silurian Fossils of Iowa. Mrs. C. M. Woodward, Fort Wayne, Indiana.
 Oct. 10. Quartzite Boulder. J. Taylor.

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- Nov. 7. Specimen Fossil Coral, and Medicine Tube. George Cook, Kosciusko county, Indiana.
- Nov. 9. 270 Specimens, 67 Species of Choice Fossil Corals of the Upper Silurian and Devonian Formations. Presented by Dr. James Knapp, of Louisville, Kentucky, known as the Knapp Donation.
- Nov. 9. 230 Specimens of Shells and Corals of the Upper Silurian and Devonian Formation. O. Hobbs, Jeffersonville, Indiana.
- Nov. 15. Specimens of Coal Measure Fossils. Presented by William Gibson, Newport, Indiana.
- Nov. 16. Specimens of Cretaceous Limestone from Texas. C. C. Gale.
- Nov. 17. Fine Collection of Lower Silurian Fossils. Presented by Mrs. Mary P. Haines, Richmond, Indiana.
- Nov. 18. Coal Measure Fossils. Judge John T. Scott, Terre Haute, Indiana.
- Nov. 19. Niagara Fossils, Waldron, Indiana. J. T. Duty, Waldron, Indiana.

CABINET AND MUSEUM.

INDIANAPOLIS, INDIANA, November 1, 1880.

DR. JOHN COLLETT,

Chief of Bureau of Statistics and Geology:

SIR—I have the honor to submit to you my report of the number and class of fossils, minerals, land and fresh water shells, Indian and mound-builders relics, and other miscellaneous specimens received from the State Board of Agriculture and all specimens received since you have had charge of the Bureau of Statistics and Geology:

Minerals, including lithological specimens.....	300
Lower Silurian fossils, shells, corals and crinoids.....	2040
Upper Silurian fossils, shells, corals and crinoids.....	1395
Devonian fossils, shells, corals and crinoids.....	1550
Lower Carboniferous fossils, shells, corals and crinoids.....	1460
Carboniferous fossils, shells, corals and coal plants.....	919
Land and fresh water shells.....	276
Natural history specimens in alcohol—jars, etc.....	186
Mound-builders' relics, grooved axes.....	87
Hand axes or fleshers, ungrooved.....	52
Pestles.....	38
Arrow points, spears, etc.....	505
Perforated shell and slate ornaments.....	23
Medicine tubes.....	2
Plumb bobs.....	3
Pipes.....	3
Hoes.....	2
Discoidal stones.....	3

Copper chisel.....	1
Copper beads and fragments of copper.....	6
Copper needle.....	1
Bone awl and needle.....	2
String of Indian beads	1
Iron tomahawk.....	1
Fishing sinkers.. ..	12
Hammer and anvil stones.....	29
Rocks with paint cups.....	5
Elephant's tooth.....	1
Peruvian water-jugs.....	3
Indian crania.....	3
Boxes containing fragments of arrow points, pottery and human bones.....	3

Total number of specimens of all descriptions received from the State
Board of Agriculture..... 8912

List of fossils, minerals and fresh water shells received since
Bureau of Statistics and Geology has been established:

Number of specimens of all kinds from the McCormick collection.....	10268
Dr. James Knapp's donation.....	276
Mr. Orlando Hobbs' donation.....	233
Collected on survey of Monroe county.....	348
Collected on survey of Putnam county.....	287
Dr. Sternberg's U. S. A. donation of mound-builders' pottery from Georgia and Florida.....	7
Fresh water shells.....	228
Total amount of fossils and specimens of all descriptions donated and collected since the Bureau of Statistics and Geology has been established	11,647

Total amount of all specimens of every description in the State Museum
up to date..... 20,551

Very respectfully, your obedient servant,
G. K. GREENE.

REPORT OF EXPENDITURES.

DEPARTMENT OF STATISTICS AND GEOLOGY,
INDIANAPOLIS, INDIANA, October 31, 1880.

To His Excellency, JAMES D. WILLIAMS,
Governor of Indiana:

SIR—In pursuance of the requirements of the sixth section of the act of the General Assembly of Indiana creating the Department of Statistics and Geology, I submit the following “detailed statement,” accompanied with the proper vouchers (Nos. 36 to 117, inclusive) of and for all moneys expended during the fiscal year ending October 31, 1880:

October	31, 1879, voucher No. 36, Campbell	\$75 00
October	31, 1879, voucher No. 37, Carlon	13 75
October	31, 1879, voucher No. 38, Lloyd	39 75
October	31, 1879, voucher No. 39, Davis	32 85
October	31, 1879, voucher No. 40, Collett.....	41 25
November	1, 1879, voucher No. 41, Bowen & Stewart	3 32
November	1, 1879, voucher No. 42, Garvey	1 50
November	1, 1879, voucher No. 43, Lloyd	5 00
November	1, 1879, voucher No. 44, Gilkey.....	2 40
November	1, 1879, voucher No. 45, express charges.....	25
November	1, 1879, voucher No. 46, Lloyd	40
November	1, 1879, voucher No. 47, express charges	50
November	29, 1879, voucher No. 48, Reinhardt	1 50
November	29, 1879, voucher No. 49, Byrkit.....	10 00
November	29, 1879, voucher No. 50, Greene	50 00
November	29, 1879, voucher No. 51, Greene	75 00
November	29, 1879, voucher No. 52, Mills	45 11
November	29, 1879, voucher No. 53, Mills	12 50

REPORT OF EXPENDITURES.

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November 29, 1879, voucher No. 54, Emmerson & Son.....	80
December 1, 1879, voucher No. 55, Lloyd	\$55 00
December 1, 1879, voucher No. 56, Davis.....	27 60
December 1, 1879, voucher No. 57, Palmer	6 00
December 1, 1879, voucher No. 58, Campbell.....	75 00
December 1, 1879, voucher No. 59, Campbell.....	20 60
December 13, 1879, voucher No. 60, Palmer.....	18 00
December 31, 1879, voucher No. 61, Smith	36 75
December 31, 1879, voucher No. 62, Lloyd	60 00
December 31, 1879, voucher No. 63, Davis.....	23 25
December 31, 1879, voucher No. 64, Palmer	22 50
December 31, 1879, voucher No. 65, Hetselgesser.....	12 00
December 31, 1879, voucher No. 66, Campbell.....	82 60
January 8, 1880, voucher No. 67, Carlon	62 82
January 15, 1880, voucher No. 68, Palmer	19 50
January 17, 1880, voucher No. 69, Smith	19 50
January 31, 1880, voucher No. 70, Palmer	31 50
January 31, 1880, voucher No. 71, Smith	22 50
January 31, 1880, voucher No. 72, Hetselgesser	51 00
January 31, 1880, voucher No. 73, Lloyd	54 00
January 31, 1880, voucher No. 74, Woollen.....	10 50
January 31, 1880, voucher No. 75, Davis.....	34 05
January 31, 1880, voucher No. 76, Campbell	90 20
February 4, 1880, voucher No. 77, Carlon	14 50
February 18, 1880, voucher No. 78, Hetselgesser	21 00
February 18, 1880, voucher No. 79, Palmer.....	22 50
February 24, 1880, voucher No. 80, Fleming.....	25 00
February 28, 1880, voucher No. 81, Woollen.....	36 00
February 28, 1880, voucher No. 82, Palmer	13 50
February 28, 1880, voucher No. 83, Davis.....	39 90
February 28, 1880, voucher No. 84, Smith.....	35 00
February 28, 1880, voucher No. 85, Lloyd.....	56 00
February 28, 1880, voucher No. 86, Campbell ..	79 10
March 9, 1880, voucher No. 87, Carlon.....	11 00
March 10, 1880, voucher No. 88, Sentinel.....	7 50
March 2, 1880, voucher No. 89, Palmer.....	7 50
March 31, 1880, voucher No. 90, Lloyd.....	50 00
April 1, 1880, voucher No. 91, Campbell.....	84 10
April 30, 1880, voucher No. 92, Lloyd	40 00
April 30, 1880, voucher No. 93, Campbell.....	85 20
April 30, 1880, voucher No. 94, Piercy	50 00

April	20, 1880, voucher No. 95, Davis.....	\$10 25
April	19, 1880, voucher No. 96, Woollen.....	37 50
May	31, 1880, voucher No. 97, Lloyd	33 00
May	31, 1880, voucher No. 98, Campbell.....	93 50
July	1, 1880, voucher No. 99, Campbell.....	90 91
July	3, 1880, voucher No. 100, Carlon	15 00
July	31, 1880, voucher No. 101, Campbell.....	95 13
July	31, 1880, voucher No. 102, Lloyd	32 00
August	31, 1880, voucher No. 103, Campbell.....	125 05
August	31, 1880, voucher No. 104, Davis.....	8 55
August	31, 1880, voucher No. 105, Woollen.....	7 50
August	31, 1880, voucher No. 106, Brouse.....	9 00
September 30,	1880, voucher No. 107, Campbell	101 55
September 30,	1880, voucher No. 108, Woollen	29 85
September 30,	1880, voucher No. 109, Brouse.....	23 33
September 30,	1880, voucher No. 110, Davis.	28 35
September 30,	1880, voucher No. 111, C. & H	53 57
September 30,	1880, voucher No. 112, B. & S.....	58
September 30,	1880, voucher No. 113, Burford.....	3 10
October	6, 1880, voucher No. 114, Lloyd	37 00
October	6, 1880, voucher No. 115, McConnel.	180 00
October	6, 1880, voucher No. 116, Piercy.....	50 00
		<hr/>
		\$2,988 27
October	30, 1880, voucher No. 117, Campbell.....	91 93
October	30, 1880, salary of Chief (including October, 1879).	1,300 00
		<hr/>
Total.....		\$4,380 20

Respectfully submitted,

JOHN COLLETT,

Chief of Bureau.

AGRICULTURAL STATISTICS.

AGRICULTURAL STATISTICS.

Those who may compare the tables of agricultural products for the year 1879, as shown in this report and that of last year, must bear in mind that the report last year was almost wholly an estimate—first, on the part of the township trustees as to the number of acres and bushels in their respective townships; then, second, by the Bureau on the basis of such townships as made reports. The Bureau calculated the proportional amount for those not reporting to make up the total for the State at large. The following is a comparison of the two reports for the State for the crops of 1879:

Years.	Wheat.		Corn.		Oats.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Crop of 1879, by Trustees.....	2,578,710	44,753,208	8,837,853	115,575,888	861,282	19,445,043
Crop of 1879, by Assessors.....	2,500,082	41,825,364	3,626,909	89,591,444	908,077	12,243,362
Excess of estimate over Assessors' returns.....	78,628	3,427,844	21,144	25,984,444	Deficiency 46,795	7,201,681

The acreage of the three crops is a very close agreement to come from two different sources of information, and so is the bushels of wheat. The corn crop was still growing, and much of the oats crop was unthreshed when the trustees made their reports to the Bureau, and were largely estimates, and as appears now somewhat extravagant. The amount threshed by owners of threshers of the crop of 1879, as reported to the assessors, is of wheat 36,783,857 bushels, and of oats 9,589,127 bushels, or 5,041,507 bushels of wheat and 2,654,235 bushels of oats less than the amount reported by the farmers to the assessors. Whether there were these amounts unthreshed in April, 1880, or whether the machine report is the

more correct measure, it is as yet impossible to say. Doubtless much of the oats crop was fed out in the sheaf, which was reported by the farmers to the assessors, which would not be reported by the owners of threshers; but this is not probably the case to any considerable extent with wheat. The bureau has consulted intelligent and experienced farmers, who say that wheat, as measured by threshers, will weigh about sixty-five pounds (or more) per bushel, as the threshers very generally give good and often heaping measure. This will represent a gain of $8\frac{1}{2}$ per cent. over the machine measure, or what was measured by the threshers as 36,783,857 bushels will weigh out 39,847,952 bushels, only 1,977,412 bushels, less than the amount reported to the assessors by the farmers in April last. Some grain is trodden or flailed out, and some small parcels might have been in the stack or barn unthreshed at the time the assessors were gathering statistics, and this would make still closer the approximate agreement between the machine measure and the report of the farmer. The bureau has reason to believe that the statistical returns in relation to the staple productions of the State are correct to a pretty close approximation, taking the State as a whole, though some localities are, without doubt, inconsistently reported. Some of the minor productions which have not been previously called for may be, and probably are, inadequately reported. These will be noticed in notes accompanying the tables. The machinery for collecting statistics is yet so very imperfect that no better results can be shown. As people come to take more interest in statistical knowledge they will report more carefully.

TABLE No. I.

STATEMENT showing the acres and bushels of Wheat, Corn, Oats and Barley,
as returned by the Assessors in April, 1880.

Counties.	Wheat.		Corn.		Oats.		Barley.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Adams.....	20,030	349,403	21,889	561,808	9,199	274,184	213	3,195
Allen	47,087	779,027	39,554	1,132,787	18,258	504,163	838	1,880
Bartholomew	38,458	568,708	32,779	1,489,208	25,596	84,152	543	4,734
Benton.....	3,226	58,734	81,292	2,722,920	12,380	399,192	835	6,295
Blackford.....	8,601	176,218	12,857	319,761	2,338	39,138	3	70
Boone.....	26,629	465,192	56,523	1,303,228	6,068	87,350	318	2,540
Brown.....	7,324	59,506	11,442	265,050	14,251	59,297	7	160
Carroll.....	54,521	838,344	37,998	1,098,355	17,489	119,148	810	380
Cass.....	34,802	748,383	35,470	1,202,907	6,222	147,206	186	1,316
Clark.....	15,471	152,139	26,081	409,573	16,431	46,628	225	104
Clay.....	72,070	309,486	30,778	634,404	14,389	108,301	199	1,421
Clinton	31,668	1,004,862	64,219	1,501,311	28,465	147,758	127	1,116
Crawford.....	8,404	57,903	15,677	200,851	7,822	45,495	189	100
Daviess	43,632	950,091	37,105	972,285	5,221	86,209	135	.....
Dearborn	22,107	247,953	24,915	580,432	14,120	111,158	5,643	64,416
Decatur.....	27,054	464,305	43,435	1,122,867	8,526	90,121	1,688	1,679
Dekalb.....	28,240	511,178	20,467	645,089	95,899	358,628	159	304
Delaware.....	26,818	473,179	46,420	1,313,873	5,546	74,964	845	208
Dubois.....	22,618	203,370	34,439	445,058	9,096	101,261	219	2,725
Elkhart.....	48,807	951,425	42,799	967,991	10,793	366,993	31	49
Fayette.....	17,835	388,333	28,882	975,597	3,848	83,768	270	2,908
Floyd.....	6,837	88,788	7,399	141,937	2,402	16,575	190	966
Fountain	37,612	788,190	45,715	1,512,055	11,112	130,569	682	.....
Franklin.....	26,908	377,456	37,534	1,039,776	8,481	146,091	3,359	56,747
Fulton.....	25,503	497,579	30,727	606,077	7,132	123,429	60	1,561
Gibson.....	60,200	817,027	40,265	1,178,796	2,732	15,838	65	1,260
Grant.....	19,203	336,697	31,275	803,699	8,827	56,422	228	781
Greene.....	27,295	281,881	49,862	1,137,211	10,013	106,184	743	65
Hamilton	34,546	683,398	51,247	1,767,565	4,937	135,585	17	340
Hancock.....	27,752	580,207	37,072	1,187,328	1,665	45,129	384	7,089
Harrison.....	28,606	305,818	28,254	380,170	10,041	56,619	203	824
Hendricks.....	30,743	540,100	54,020	1,690,779	5,476	96,631	8	97
Henry.....	38,932	762,963	52,991	1,817,820	9,768	87,767	368	1,888
Howard.....	25,720	524,753	38,713	924,250	2,878	78,486	573	186
Huntington.....	29,978	605,858	38,506	968,496	5,685	144,509	81	2,457
Jackson.....	22,366	276,268	55,150	858,090	10,560	118,888	96	746
Jasper.....	5,051	86,317	33,608	827,165	7,269	193,201	153	2,815
Jay.....	22,724	427,984	75,242	805,314	9,435	244,430	79	1,870
Jefferson.....	20,258	218,664	27,611	464,731	9,358	46,070	3,886	13,649
Jennings.....	14,542	112,734	20,937	408,372	6,732	37,773	35	122
Johnson.....	32,571	543,728	52,658	1,714,238	4,644	33,448	60	1,000
Knox.....	47,463	692,721	52,528	1,124,996	6,656	29,661	803	66
Kosciusko.....	47,054	726,077	41,867	944,597	23,106	250,067	4,889	1,306
Lagrange.....	38,021	773,121	23,081	831,975	6,209	183,914	368	2
Lake.....	2,976	50,019	31,781	721,105	16,979	561,217	6	104
Laporte.....	40,796	830,521	40,780	1,014,254	20,438	277,202	400	3,531
Lawrence.....	22,426	244,406	33,467	505,270	17,913	120,982	147	60
Madison.....	37,020	740,900	55,213	1,641,284	3,744	56,467	469	3,022
Marion.....	31,034	481,819	55,155	1,890,720	15,244	134,559	1,867	10,315
Marshall.....	33,775	539,653	29,439	687,928	12,574	186,652	191	730
Martin.....	12,739	109,978	17,462	330,270	7,645	48,246	585	50
Miami.....	36,623	774,437	37,361	104,330	6,208	142,594	234	5,483
Monroe.....	12,761	89,120	49,374	373,024	12,511	91,154	364	208
Montgomery.....	41,907	961,997	153,372	2,080,379	7,350	162,444	204	1,885

TABLE No. I.—Continued.

Counties.	Wheat.		Corn.		Oats.		Barley.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Morgan.....	24,347	409,837	43,184	1,819,888	3,777	51,971	115	2,150
Hewton.....	2,479	53,764	43,973	1,288,717	9,717	265,152	156	265
Noble.....	36,993	704,553	26,679	746,845	11,404	274,727	1,435	460
Ohio.....	7,662	88,146	9,199	236,471	611	7,009	763	13,034
Orange.....	13,217	176,003	29,810	280,044	11,947	102,554	135	27
Owen.....	17,370	199,718	23,167	533,194	7,473	103,887	5	40
Parke.....	37,566	679,282	46,552	1,505,695	7,212	100,011	193	1,159
Perry.....	11,445	99,845	14,919	308,352	4,039	32,892	287	3,267
Pike.....	28,093	338,545	32,384	704,295	7,721	33,438	179	4
Porter.....	11,891	224,479	30,407	639,574	21,392	294,207	1,069	1,002
Posey.....	51,210	849,302	47,283	1,455,407	2,410	18,356	299	1,988
Pulaski.....	7,808	195,728	20,204	273,745	3,165	68,356	894	667
Putnam.....	23,740	323,731	37,730	1,032,465	6,085	95,811	320	8
Randolph.....	22,777	553,456	62,013	1,686,740	11,968	287,802	117	2,783
Ripley.....	21,278	247,671	28,042	580,474	12,960	164,004	265	1,343
Rush.....	43,109	875,771	56,777	2,009,641	3,292	72,061	387	9,634
Scott.....	7,244	61,354	14,508	189,699	4,144	19,151	108	53
Shelby.....	45,969	683,671	63,799	2,011,664	3,267	47,565	2,482	32,013
Spencer.....	28,274	248,302	35,406	665,208	12,089	80,859	2,311	7,245
Starke.....	3,289	28,711	4,815	90,271	1,198	19,825	485	43
St. Joseph.....	43,420	690,794	27,692	829,554	8,003	252,574	1,313	12,050
Steuben.....	27,164	495,690	20,308	767,160	5,485	189,350	40	1,233
Sullivan.....	50,167	651,731	46,780	935,005	7,472	74,047	100	.....
Switzerland.....	14,815	166,253	20,816	440,461	2,827	21,079	457	3,508
Tippecanoe.....	47,231	875,814	74,389	2,511,816	9,976	333,676	115	1,596
Tipton.....	13,401	225,313	23,018	719,041	1,677	25,213	300	100
Union.....	14,734	250,213	22,002	651,219	2,147	45,944	573	10,906
Vanderburgh.....	26,707	431,807	20,076	784,441	1,143	20,739	31	900
Vermillion.....	29,825	569,970	32,767	1,055,466	5,333	83,259	283	87
Vigo.....	35,795	551,306	41,600	1,119,070	5,577	84,881	62	200
Wabash.....	38,093	829,772	37,497	1,316,659	5,364	143,969	242	1,017
Warren.....	25,834	501,196	63,159	1,928,392	19,717	259,340	1,183	825
Warrick.....	25,929	273,464	35,051	723,027	4,245	50,871	59	1,299
Washington.....	17,069	119,354	31,613	515,888	19,850	133,662	7	170
Wayne.....	32,055	633,275	55,875	1,817,257	10,511	218,130	1,122	13,058
Wells.....	23,335	455,759	30,068	829,444	6,618	131,932	654	968
White.....	20,375	249,484	65,429	2,068,796	11,994	300,814	1,253	920
Whitley.....	23,228	442,810	22,930	711,604	6,799	231,357	.....	2
Total.....	2,500,082	41,825,364	3,626,909	89,591,444	906,077	12,243,362	53,527	343,873

TABLE No. II.

STATEMENT showing the acreage and amount of Rye, Irish and Sweet Potatoes and Tobacco for the year 1879, as reported by the Assessors in April, 1880.

Counties.	Rye.		Irish Potatoes.		Sweet Potatoes.		Tobacco.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Pounds.
Adams.....	60	744	629	29,351	39	440	6	1,200
Allen.....	244	3,091	2,578	164,447	125	743	6	5,771
Bartholomew.....	41	197	1,091	24,348	1,611	3,238	253	15,135
Benton.....	445	6,699	283	24,810	6	611	20	125
Blackford.....	57	536	226	18,803	.....	45	1	150
Boone.....	244	1,923	1,529	76,027	119	611	51	2,263
Brown.....	71	319	422	26,389	245	1,445	284	139,435
Carroll.....	77	355	1,123	37,945	250	574	205	915
Cass.....	97	828	1,023	69,884	154	550	1	110
Clark.....	236	803	1,373	75,008	220	2,501	32	21,472
Clay.....	62	469	1,445	38,928	344	469	199	1,870
Clinton.....	99	1,090	618	41,424	191	564	43	771
Crawford.....	29	208	369	17,941	305	999	24	2,790
Daviess.....	41	402	358	21,182	145	1,602	26	14,881
Dearborn.....	1,448	3,672	1,656	69,503	224	1,387	6	186
Decatur.....	154	899	421	22,339	615	893	.....	463
Dekalb.....	84	645	1,170	65,335	237	254	7	220
Delaware.....	176	2,189	175	18,944	359	550	.....	1,489
Dubois.....	16	85	532	22,760	29	400	940	558,776
Elkhart.....	1,053	3,571	1,413	76,437	8	727	1	72
Fayette.....	76	899	662	84,829	85	1,591	7	6,850
Floyd.....	67	436	940	35,692	72	2,670	.....	290
Fountain.....	64	124	476	38,368	532	675	2	2,044
Franklin.....	642	4,320	1,210	73,350	30	628	.....	322
Fulton.....	203	1,326	786	27,763	4	353	20	710
Gibson.....	108	814	397	16,927	159	2,736	187	55,779
Grant.....	102	485	592	23,448	35	737	9	2,083
Greene.....	81	529	211	14,336	154	562	66	17,578
Hamilton.....	45	896	1,195	74,718	103	1,709	8	8,192
Hancock.....	142	550	170	16,752	318	963	2	2,181
Harrison.....	182	1,088	2,415	51,928	751	1,520	10	4,182
Hendricks.....	188	2,201	1,275	98,809	77	2,414	10	3,703
Henry.....	12	274	2,526	45,627	483	3,774	8	3,913
Howard.....	250	805	476	29,962	135	1,233	43	6,478
Huntington.....	94	1,270	749	37,494	144	1,123	10	845
Jackson.....	328	1,917	480	21,318	125	1,438	132	7,797
Jasper.....	959	8,968	864	17,965	18	382	2	2,833
Jay.....	80	795	604	27,463	88	538	3	1,842
Jefferson.....	228	784	1,308	50,269	127	2,663	20	14,352
Jennings.....	84	479	479	16,133	27	461	12	8,748
Johnson.....	147	1,985	1,320	18,918	151	813	54	3,790
Knox.....	73	2,323	1,003	59,778	336	4,153	65	1,356
Kosciusko.....	132	1,087	1,501	50,833	655	1,147	.....	415
Lagrange.....	335	2,166	693	58,269	2	185	1	43
Lake.....	1,060	16,153	1,358	63,493	1,024	420	200	3,390
Laporte.....	696	6,011	1,844	96,985	2	244	3	65
Lawrence.....	548	1,578	2,215	6,594	479	1,071	90	1,408
Madison.....	82	1,232	667	25,630	228	476	200	692
Marion.....	150	393	3,695	149,616	1,521	20,682	201	854
Marshall.....	197	1,204	997	49,156	350	377	7	1,946
Martin.....	257	1,094	2,034	9,559	2	238	10	6,002
Miami.....	72	952	737	40,594	39	582	2	1,671
Monroe.....	128	526	160	10,222	140	825	4	4,765

TABLE No. II—Continued.

Counties.	Rye.		Irish Potatoes.		Sweet Potatoes.		Tobacco.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Pounds.
Montgomery.....	155	2,970	832	43,461	108	906	54	1,380
Morgan	261	2,298	276	20,447	26	1,154	10	3,534
Newton	653	6,838	177	19,589	1	95	8	169
Noble.....	34	478	1,244	67,772	527	760	15	366
Ohio	281	1,767	1,083	62,102	54	485	4	2,260
Orange.....	159	491	173	6,134	25	1,726	76	25,752
Owen.....	108	677	286	13,300	157	1,640	253	5,776
Parke	129	1,416	248	21,708	404	2,330	18	1,963
Perry.....	16	198	1,052	80,669	136	163	189	100,289
Pike.....	40	226	324	14,061	93	963	924	584,161
Porter.....	962	10,225	2,883	120,140	139	.....	.....	6
Posey.....	14	145	420	33,129	62	2,006	10	9,347
Pulaski	2,035	6,907	661	26,063	19	476	6	1,255
Putnam.....	334	3,663	163	26,209	16	1,027	218	2,836
Randolph	176	1,907	398	41,464	75	1,367	93	7,446
Ripley	287	2,543	1,220	62,724	54	1,666	7	1,184
Rush.....	30	190	463	28,965	245	4,615	20	1,671
Scott.....	44	136	169	4,072	67	598	24	2,081
Shelby.....	450	645	824	31,233	71	1,203	26	27,593
Spencer.....	139	831	2,666	122,186	836	4,899	2,930	2,072,795
Starke	658	5,359	180	10,379	19	406	3	2,440
St. Joseph.....	182	2,105	1,267	87,388	143	789	4	128
Steuben.....	69	133	915	71,624	10	647	.....	335
Sullivan.....	71	465	608	11,226	120	478	77	5,167
Switzerland.....	1,300	9,340	3,636	137,913	1,670	451	50	53,088
Tippecanoe.....	314	2,972	1,093	64,039	28	1,275	1	517
Tipton.....	725	1,011	396	19,155	676	425	3	2,881
Union.....	28	225	216	20,757	27	887	12	1,350
Vanderburgh.....	.....	.....	871	83,053	10	726	6	2,000
Vermillion.....	7	121	240	17,474	65	270	106	648
Vigo.....	166	1,496	993	63,338	169	2,638	.....	1,365
Wabash.....	29	406	839	47,455	214	9,247	56	13,269
Warren.....	199	2,906	186	21,582	120	355	3	1,756
Warrick.....	102	426	1,032	86,417	136	14,144	5,624	2,682,659
Washington.....	67	894	200	11,533	34	2,456	48	36,368
Wayne.....	494	503	1,561	66,626	641	5,646	225	205,154
Wells.....	258	1,855	754	31,103	307	553	4	1,399
White.....	1,126	8,180	553	33,595	4,325	388	4	2,627
Whitley.....	31	222	743	49,643	24	372	3	796
Total.....	24,578	176,969	85,828	4,122,841	25,424	150,529	14,600	6,790,413

TABLE No. III.

STATEMENT showing the acreage, bushels of Seed and tons of Hay, of Buckwheat, Meadow, Clover and Blue Grass for 1879, as reported by the Assessors in April, 1880.

Counties.	Buckwheat.		Timothy Meadows.			Clover.		Bushels Blue Grass Seed.
	Acres.	Bushels.	Acres.	Tons of Hay.	Bushels of Seed.	Acres.	Bushels of Seed.	
Adams.....	184	471	11,907	14,960	1,102	4,283	8,420	93
Allen.....	138	1,773	26,510	31,478	844	9,916	21,558	223
Bartholomew.....	55	482	7,813	5,844	410	4,792	425	98
Benton.....	95	832	10,377	10,939	452	93	2	24
Blackford.....	40	247	4,297	4,952	329	337	288	8
Boone.....	111	1,172	10,156	8,692	658	2,503	746	196
Brown.....	319	1,044	5,082	3,102	161	190	47	19
Carroll.....	29	193	12,270	12,404	239	3,099	1,868	41
Cass.....	57	389	10,167	12,815	248	3,774	1,258	6
Clark.....	12	422	10,281	5,952	72	1,732	8	1,012
Clay.....	43	1,027	11,894	10,581	496	1,310	647	5
Clinton.....	170	1,002	9,254	9,236	631	3,343	2,030	691
Crawford.....	5	198	10,464	2,137	77	327	10	60
Daviess.....	67	728	10,735	6,980	368	1,185	461	86
Dearborn.....	106	1,355	14,982	9,863	328	2,288	600	102
Decatur.....	67	768	14,800	10,065	495	5,381	1,671	145
Dekalb.....	273	2,301	14,609	17,395	713	8,235	15,090	116
Delaware.....	25	385	9,515	12,031	1,355	2,687	816	1,246
Dubois.....	8	76	9,830	7,195	46	1,950	1,402	33
Elkhart.....	217	1,844	16,795	23,466	904	13,089	11,780	31
Fayette.....	30	417	5,641	6,378	413	8,024	2,548	80
Floyd.....	2	.....	3,413	2,869	10	238	8	.....
Fountain.....	8	432	9,459	9,045	723	1,505	311	64
Franklin.....	173	2,206	9,384	8,121	509	4,596	1,499	410
Fulton.....	47	562	7,413	13,959	716	5,200	3,401	126
Gibson.....	9	344	29,313	6,361	256	5,622	2,774	71
Grant.....	112	640	8,356	8,248	790	2,691	1,336	149
Greene.....	320	1,231	12,750	10,800	217	1,091	232	57
Hamilton.....	68	893	9,953	11,520	671	3,829	1,233	113
Hancock.....	101	963	6,536	6,861	571	2,504	1,888	188
Harrison.....	13	415	8,806	3,832	155	2,680	35	45
Hendricks.....	14	330	13,653	12,752	405	3,841	865	34
Henry.....	1,683	619	9,148	10,945	1,536	7,263	4,211	709
Howard.....	25	389	6,227	7,786	431	2,960	1,150	216
Huntington.....	43	515	13,385	16,452	999	5,285	6,304	280
Jackson.....	32	520	12,413	5,202	361	1,075	22	9
Jasper.....	405	1,494	13,507	18,260	619	88	100	71
Jay.....	81	2,235	12,002	10,754	1,046	2,221	2,544	469
Jefferson.....	81	941	12,763	8,274	141	397	4	48
Jennings.....	118	1,099	9,782	6,184	343	595	44	84
Johnson.....	772	1,580	6,640	5,328	1,358	8,685	1,340	63
Knox.....	21	80	6,458	6,017	464	2,780	773	84
Kosciusko.....	162	1,438	16,123	19,862	1,012	7,779	14,022	402
Lagrange.....	193	2,364	13,150	17,777	603	11,936	12,931	184
Lake.....	296	4,232	27,309	41,578	1,720	1,081	3,169	28
Laporte.....	420	2,843	18,718	23,774	544	3,586	3,820	18
Lawrence.....	26	922	10,037	4,942	264	946	17	100
Madison.....	81	800	9,804	11,105	323	2,617	1,394	314
Marion.....	45	450	15,477	18,342	274	3,067	890	97
Marshall.....	232	1,364	9,217	12,728	2,033	6,907	9,279	1,066
Martin.....	131	655	4,180	2,770	152	398	17	3
Miami.....	69	385	10,483	12,277	552	7,265	3,694	96
Monroe.....	21	239	20,784	6,188	184	777	123	55
Montgomery.....	46	466	15,755	16,210	520	4,769	2,519	23

TABLE No. III.—Continued.

Counties.	Buckwheat.		Timothy Meadows.			Clover.		Bushels Blue Grass Seed.
	Acres.	Bushels.	Acres.	Tons of Hay.	Bushels of Seed.	Acres.	Bushels of Seed.	
Morgan	42	489	7,948	5,821	510	2,939	279	121
Newton	149	797	9,454	16,769	508	334	498	100
Noble	193	1,436	15,192	20,439	494	8,532	13,765	11
Ohio	36	536	3,311	1,864	9	153	.....	.....
Orange	14	139	8,159	3,943	179	659	80	310
Owen	101	835	15,971	10,719	588	1,184	608	31
Parke	24	484	9,978	11,418	1,088	2,713	1,248	29
Perry .....	.....	37	4,819	3,282	71	614	10	.....
Pike	78	832	9,261	4,022	217	2,409	269	.....
Porter	265	1,301	15,683	22,859	971	1,537	4,750	1,110
Posey	4	68	4,223	5,064	215	7,131	4,780	89
Pulaski	816	1,198	8,626	18,462	447	1,975	2,308	.....
Putnam	44	510	13,567	12,858	370	2,584	962	46
Randolph	101	930	9,840	11,219	1,659	5,848	2,617	235
Ripley	472	699	21,208	13,271	102	377	25	10
Rush	33	419	9,816	10,759	848	9,293	3,561	253
Scott	18	137	4,715	1,747	221	240	30	71
Shelby	34	537	7,025	6,651	260	5,462	1,652	27
Spencer	742	401	10,002	11,475	316	1,614	227	112
Starke	134	82	1,572	9,248	38	343	617	6
St. Joseph	116	1,366	16,605	22,216	514	8,319	9,555	436
Steuben	257	3,583	13,761	17,435	275	7,749	15,828	14
Sullivan	26	580	7,876	9,675	303	4,011	115	162
Switzerland	105	1,967	9,877	4,722	141	574	45	250
Tippecanoe	60	703	12,811	12,274	613	2,102	340	14
Tipton	57	621	6,270	6,183	340	1,051	104	49
Union	82	225	4,171	4,104	255	3,907	679	36
Vanderburgh	11	227	7,072	8,541	.....	2,398	2,211	.....
Vermillion	43	812	5,615	5,517	231	297	32	20
Vigo	18	378	7,066	7,164	251	1,005	128	.....
Wabash	210	1,538	18,217	13,345	1,642	5,162	7,061	308
Warren	57	1,104	10,640	12,804	1,118	763	125	73
Warrick	49	283	10,305	8,758	658	3,498	2,578	7
Washington	5	96	16,763	5,524	373	372	10	364
Wayne	69	862	11,841	12,383	872	13,471	2,429	377
Wells	202	791	15,157	17,440	988	4,256	5,764	317
White	680	8,141	12,873	13,695	548	338	840	21
Whitley	125	1,166	11,618	15,255	435	5,465	9,270	114
Totals	12,876	82,075	1,018,889	991,149	48,741	310,489	253,588	15,031

TABLE No. IV.

STATEMENT showing Flax, Hemp, Apple, Pear, Peach and Plum Crops of 1879,
as reported by the Assessors in April, 1880.

Counties.	Flax.		Hemp.		Apples.			Bushels of Pears.	Bushels of Peaches.	Bushels of Plums.
	Acres.	Seed.	Acres.	Seed.	Bushels of Fall Apples.	Bushels of Winter Apples.	Total Apple Crop.			
Adams.....	2,983	23,825	55	340	57,160	28,182	85,342	251	179	1
Allen.....	4,918	29,970	.....	291	160,393	87,691	248,084	1,527	288	15
Bartholomew..	443	1,319	227	190	15,856	8,608	24,464	135	17	79
Benton.....	4,255	36,845	75	200	3,406	2,658	6,064	118	.....	5
Blackford.....	2,504	16,139	.....	.....	20,665	13,528	34,193	264	10	.....
Boone.....	533	2,059	6	500	28,241	81,529	54,770	453	63	.....
Brown.....	50	52	.....	16	5,939	2,967	8,906	39	233	22
Carroll.....	4,596	20,314	.....	346	20,653	19,854	40,507	411	9	22
Cass.....	1,007	6,354	88	91	36,547	31,059	67,606	1,224	8	5
Clark.....	74	213	.....	190	18,721	12,228	30,949	1,603	12	28
Clay.....	.....	.....	.....	115	10,249	5,054	15,303	222	25	20
Clinton.....	8,307	22,286	525	1,630	29,195	24,579	53,774	323	34	16
Crawford.....	19	24	.....	810	17,845	12,849	30,694	304	62	12
Davies.....	48	77	.....	155	18,131	5,379	18,510	324	.....	.....
Dearborn.....	121	18	50	.....	11,365	4,111	15,476	696	155	157
Decatur.....	747	6,327	.....	165	10,426	14,129	24,555	451	22	19
Dekalb.....	78	696	.....	111	85,918	42,051	127,969	1,634	451	15
Delaware.....	9,943	53,603	635	470	41,864	50,690	92,554	1,059	35	3
Dubois.....	.....	.....	.....	86	3,067	2,482	5,549	14	.....	.....
Elkhart.....	186	1,750	.....	94	25,207	22,109	47,316	691	197	7
Fayette.....	1,825	9,092	55	10	12,558	13,859	26,417	945	44	34
Floyd.....	10	.....	.....	.....	25,364	7,372	32,736	782	520	60
Fountain.....	5	35	.....	180	21,968	13,484	35,452	561	180	261
Franklin.....	1,452	6,791	15	270	29,628	21,726	51,354	1,135	91	123
Fulton.....	90	519	.....	.....	15,704	18,234	33,938	621	18	27
Gibson.....	.....	.....	.....	85	6,005	6,073	12,078	113	72	58
Grant.....	8,944	54,957	163	258	28,648	31,410	60,058	720	100	7
Greene.....	.....	.....	.....	22	9,802	9,162	18,964	856	60	.....
Hamilton.....	4,750	31,254	51	350	40,030	47,197	87,227	1,512	16	26
Hancock.....	8,612	51,160	52	157	15,008	27,020	42,028	801	2	1
Harrison.....	104	354	.....	646	45,534	32,284	77,818	4,917	34	92
Hendricks.....	229	1,068	.....	.....	28,747	30,942	58,689	1,276	201	27
Henry.....	13,453	75,526	180	599	52,190	50,566	102,756	3,048	13	41
Howard.....	6,930	48,696	28	56	32,103	51,413	83,516	1,112	12	24
Huntington.....	10,362	58,632	.....	.....	78,405	53,061	131,466	1,665	101	1
Jackson.....	9	20	.....	.....	13,512	6,130	19,642	104	.....	75
Jasper.....	3,760	19,260	.....	.....	1,978	1,110	3,158	105	26	4
Jay.....	7,449	29,769	.....	1,504	83,430	49,656	133,086	2,755	1	3
Jefferson.....	197	1,512	.....	551	35,707	20,284	55,991	1,076	67	126
Jennings.....	118	157	.....	91	5,807	4,723	10,530	35	.....	12
Johnson.....	.....	.....	6	315	29,540	27,373	56,913	771	10	121
Knox.....	121	25	33	32	8,257	19,805	28,062	1,037	103	30
Kosciusko.....	4,598	5,906	16	761	40,961	27,625	68,586	1,221	123	44
Lagrange.....	.....	.....	4	934	32,843	18,024	40,867	706	840	61
Lake.....	69	761	.....	15	7,374	3,297	10,671	19	2	5
Laporte.....	35	40	.....	340	11,398	7,290	18,688	307	186	1
Lawrence.....	4	380	.....	40	5,621	4,964	10,585	406	.....	8
Madison.....	13,559	103,811	77	366	41,238	41,544	82,772	572	68	23
Marion.....	933	5,603	100	230	66,679	40,943	107,627	2,294	63	408
Marshall.....	19	74	6	396	27,995	13,235	41,230	631	127	7
Martin.....	14	.....	.....	.....	2,253	1,086	3,339	4	.....	10
Miami.....	4,917	31,832	445	367	52,717	42,799	95,556	1,772	67	81
Monroe.....	.....	.....	.....	160	17,545	14,567	32,112	44	26	45
Montgomery..	24	130	1,797	3,513	28,675	13,332	42,007	460	27	25

TABLE No. IV.—Continued.

Counties.	Flax.		Hemp.		Apples.			Bushels of Pears.	Bushels of Peaches.	Bushels of Plums.
	Acres.	Seed.	Acres	Seed.	Bushels of Fall Apples.	Bushels of Winter Apples.	Total Apple Crop.			
Morgan.....	163	1,842	.....	.....	14,956	9,926	24,882	521	57	4
Newton.....	8,502	26,831	.....	80	3,346	2,948	6,294	31	.....	.....
Noble.....	247	640	.....	170	41,026	25,147	66,173	874	214	69
Ohio.....	.....	.....	.....	.....	1,776	506	2,282	127	.....	1
Orange.....	64	16	.....	78	6,951	5,838	12,789	110	115	25
Owen.....	22	121	.....	155	15,578	6,794	22,372	82	102	1
Parke.....	26	100	50	132	24,762	28,289	53,051	711	76	20
Perry.....	4	5	.....	210	13,134	26,415	39,549	186	15	23
Pike.....	.....	.....	10	65	6,885	3,032	9,917	32	13	73
Porter.....	.....	.....	.....	163	7,356	5,303	12,659	358	465	.....
Posey.....	16	150	.....	613	27,508	13,409	40,917	713	107	571
Polaski.....	219	991	60	134	2,589	3,102	5,691	126	6	11
Putnam.....	.....	40	4	26	25,609	24,502	50,111	854	14	8
Randolph.....	12,651	76,773	4	358	99,912	64,844	164,756	3,752	243	12
Ripley.....	.....	.....	.....	65	42,750	26,228	68,978	501	28	38
Rush.....	4,215	23,879	.....	938	40,215	28,536	68,751	1,179	197	12
Scott.....	.....	.....	.....	100	9,347	7,173	16,520	510	14	83
Shelby.....	433	2,704	.....	230	55,032	25,802	80,834	500	4	25
Spencer.....	2	.....	.....	310	25,562	13,548	39,110	563	103	25
Starke.....	20	.....	.....	75	1,116	681	1,797	6	78	33
St. Joseph.....	.....	.....	.....	99	13,092	11,061	24,153	494	98	18
Steuben.....	.....	.....	.....	.....	95,100	53,410	148,510	1,045	1,403	67
Sullivan.....	10	12	.....	565	22,470	15,794	38,264	277	320	36
Switzerland.....	12	.....	.....	281	18,481	27,355	45,836	1,059	42	325
Tippecanoe.....	45	225	.....	240	14,100	9,661	23,761	437	.....	25
Tipton.....	1,612	10,016	73	235	22,232	29,713	51,945	449	2	10
Union.....	2,949	15,710	87	110	9,087	8,720	17,807	871	30	33
Vanderburg.....	.....	.....	.....	.....	18,562	16,964	35,526	166	25	2
Vermillion.....	.....	.....	.....	263	9,682	7,968	17,640	309	31	3
Vigo.....	.....	.....	.....	820	14,803	13,648	28,451	189	15	63
Wabash.....	13,319	88,996	362	482	78,472	67,867	146,339	2,434	806	97
Warren.....	900	3,505	.....	75	13,693	10,675	24,368	471	62	.....
Warrick.....	.....	.....	.....	315	11,631	10,113	21,744	456	218	82
Washington.....	203	793	.....	10	21,603	14,748	36,351	192	23	43
Wayne.....	7,222	43,844	318	1,529	33,019	44,746	77,765	4,664	120	48
Wells.....	8,451	56,009	102	810	75,141	44,732	119,873	1,905	187	.....
White.....	764	4,213	.....	21	7,939	5,923	13,862	151	7	79
Whitley.....	2,877	20,660	76	402	61,021	36,575	97,596	744	195	9
Total.....	198,892	1,135,770	5,834	28,107	2,571,750	1,940,091	4,511,841	73,680	19,930	4,219

TABLE No. V.

STATEMENT showing the Crop in 1879 of Cranberries, Quinces, Grapes, Strawberries, Currants, Gooseberries, Raspberries, Blackberries and Cherries, as reported by the Assessors in April, 1880.

Counties.	Bushels of Cranberries.	Bushels of Quinces.	Pounds of Grapes.	Gallons of Strawberries.	Gallons Currants, Goose, Black, Rasp. and other Berries.	Gallons of Cherries.
Adams.....	.....	.....	13,580	1,071	2,868	5,642
Allen.....	6	678	126,346	5,777	12,924	3,161
Bartholomew.....	.....	8	6,109	298	2,358	1,917
Benton.....	614	40	5,360	102	750	1,711
Blackford.....	.....	.....	9,779	158	359	2,666
Boone.....	.....	.....	16,795	2,904	1,873	1,997
Brown.....	1	8	2,978	69	2,136	428
Carroll.....	.....	10	21,299	1,011	2,437	2,277
Cass.....	.....	3	65,807	5,919	2,937	14,866
Clark.....	.....	120	14,168	816	784	5,632
Clay.....	.....	1	17,923	775	2,850	765
Clinton.....	.....	2	32,463	2,214	2,046	3,277
Crawford.....	.....	15	636	20	546	500
Davies.....	16	57	9,268	440	1,562	299
Dearborn.....	145	266	25,827	2,794	1,893	3,243
Decatur.....	.....	3	1,355	1,097	3,978	1,045
Dekalb.....	136	3	27,736	820	6,643	17,572
Delaware.....	74	27	10,334	3,036	891	7,760
Dubois.....	.....	2	30	10	49	.....
Elkhart.....	22	409	281,763	27,701	10,606	5,002
Fayette.....	.....	71	25,119	2,602	2,104	2,597
Floyd.....	.....	207	6,915	30,272	15,969	805
Fountain.....	2	46	21,827	496	6,378	1,216
Franklin.....	7	81	16,644	646	4,111	2,632
Fulton.....	50	15	47,253	1,324	2,221	5,102
Gibson.....	6	158	18,683	46	478	542
Grant.....	.....	1,010	52,719	2,047	4,465	6,110
Greene.....	.....	1	4,588	783	1,325	720
Hamilton.....	.....	88	41,642	1,916	3,151	5,008
Hancock.....	101	1	31,872	553	2,386	1,952
Harrison.....	3	247	8,256	5,208	1,817	2,131
Hendricks.....	.....	1	51,944	4,524	2,838	3,243
Henry.....	.....	35	58,624	6,716	9,412	4,971
Howard.....	.....	1	61,603	3,886	3,611	6,736
Huntington.....	.....	75	57,215	720	5,584	16,369
Jackson.....	11	13	31,457	1,708	1,393	657
Jasper.....	.....	33	10,665	411	2,174	1,177
Jay.....	5	1	22,467	725	1,898	10,523
Jefferson.....	11	211	4,287	2,807	3,485	1,839
Jennings.....	.....	12	1,158	378	445	853
Johnson.....	1	4,860	35,904	2,424	3,462	2,928
Knox.....	.....	2,161	4,847	915	1,122	481
Kosciusko.....	372	453	72,557	3,797	6,510	11,886
Lagrange.....	25	6	85,120	6,086	7,111	14,185
Lake.....	199	.....	6,958	2,370	2,171	1,952
Laporte.....	614	8	27,365	14,096	6,687	3,343
Lawrence.....	.....	8	5,720	472	498	289
Madison.....	3	217	12,574	603	2,682	6,460
Marion.....	.....	223	250,611	26,898	7,395	6,146
Marshall.....	164	1	93,107	4,045	6,682	13,233
Martin.....	.....	3	74	99	165	13
Miami.....	404	90	39,991	8,454	7,703	14,618
Monroe.....	1	55	2,529	122	1,615	510

TABLE No. V.—Continued.

Counties.	Bushels of Cran- berries.	Bushels of Quinces.	Pounds of Grapes.	Gallons of Straw- berries.	Gallons Currants, Goose, Black, Rasp. and other Berries.	Gallons of Cher- ries.
Montgomery.....	.....	914	42,383	4,053	2,563	2,045
Morgan.....	1	55	14,554	673	2,704	657
Newton.....	.....	.....	8,507	2,282	2,615	1,239
Noble.....	375	70	39,194	2,950	5,264	17,163
Ohio.....	.....	20	274	.....	169	355
Orange.....	6	46	2,672	32	522	301
Owen.....	.....	4	10,720	339	2,477	1,006
Parke.....	.....	11	34,577	2,515	5,643	3,160
Perry.....	.....	15	20,270	48	72	770
Pike.....	.....	11	5,545	207	1,108	363
Porter.....	1,923	1	26,133	4,095	1,096	2,660
Posey.....	7	129	12,576	730	2,335	371
Pulaski.....	74	.....	5,319	256	798	1,401
Putnam.....	7	31	14,405	1,514	2,458	1,666
Randolph.....	.....	2	35,945	1,976	3,930	15,600
Ripley.....	.....	3	22,946	801	953	1,152
Rush.....	.....	9	35,066	2,325	2,667	2,483
Scott.....	.....	31	7,451	93	2,113	511
Shelby.....	250	23	12,411	822	2,225	2,420
Spencer.....	.....	36	10,296	835	598	1,829
Starke.....	132	1	2,207	314	417	130
St. Joseph.....	374	13	78,347	8,304	2,362	1,590
Steuben.....	404	6	59,070	2,708	11,671	31,750
Sullivan.....	1	11	26,503	421	2,574	1,810
Switzerland.....	55	356	3,894	712	1,286	2,132
Tippecanoe.....	10	1/2	52,814	5,178	3,434	1,331
Tipton.....	.....	49	44,395	819	1,593	4,868
Union.....	.....	36	9,545	1,425	445	370
Vanderburgh.....	3	53	30,285	2,271	450	1,355
Vermillion.....	1	2	11,488	1,054	3,056	437
Vigo.....	.....	7	38,100	8,179	3,503	1,280
Wabash.....	63	41	147,106	1,860	5,978	14,339
Warren.....	.....	.....	3,171	1,512	1,612	1,611
Warrick.....	2	94	45,567	356	2,174	3,299
Washington.....	4	38	23,484	616	1,650	409
Wayne.....	4	130	45,792	13,022	4,135	6,073
Wells.....	1	17	78,245	2,260	4,477	12,544
White.....	.....	.....	18,350	971	1,900	3,502
Whitley.....	172	14	20,415	964	4,749	9,314
Total.....	6,862	14,313	3,001,962	269,171	238,764	386,285

TABLE No. VI.

STATEMENT showing the amount of Cider, Vinegar, Wine, Sorghum and Maple Molasses, and Maple Sugar produced in the year 1879, as reported by the Assessors in April, 1880.

Counties.	Gallons of Cider.	Gallons of Vinegar.	Gallons of Wine.	Gallons of Sorghum Molasses.	Gallons of Maple Molasses.	Pounds of Maple Sugar.
Adams	98,339	15,156	790	36,202	742	338
Allen.....	300,069	24,614	2,510	12,294	1,084	2,500
Bartholomew.....	18,656	5,130	4,434	18,625	8,912	541
Benton.....	567	365	120	5,897	2	.....
Blackford	25,654	2,914	235	5,525	139	56
Boone.....	18,255	5,239	746	42,428	3,801	1,108
Brown	1,083	738	63	26,568	666	170
Carroll	33,890	8,791	320	9,032	1,812	1,113
Cass	80,368	11,125	194	9,339	2,078	267
Clark	15,424	5,738	343	20,202	766	84
Clay	12,826	4,258	750	20,393	1,970	766
Clinton.....	30,918	6,240	141	19,220	6,403	922
Crawford	4,875	1,284	159	32,347	1,400	330
Daviess.....	4,791	2,881	114	28,908	662	180
Dearborn.....	27,763	3,225	3,878	19,312	1,092	424
Decatur	14,797	3,553	103	11,639	2,849	743
Dekalb	328,170	13,026	489	4,116	2,673	7,000
Delaware.....	79,287	14,685	713	13,242	851	1,720
Dubois.....	5,925	296	54	24,940	380	139
Elkhart	187,199	15,127	703	17,511	6,959	16,161
Fayette	18,144	8,331	418	5,349	4,798	16,912
Floyd	10,461	4,412	220	3,324	85	.....
Fountain	22,900	6,639	330	7,249	4,457	3,619
Franklin	86,329	12,329	1,220	24,460	3,034	319
Fulton.....	31,296	4,481	463	7,202	1,001	1,463
Gibson.....	9,802	5,990	181	30,605	231	70
Grant	38,837	7,474	474	12,283	1,667	2,501
Greene.....	3,341	2,561	659	39,631	1,568	864
Hamilton	76,701	15,300	637	22,742	8,618	1,235
Hancock.....	29,611	6,826	501	9,084	2,182	773
Harrison	30,923	14,259	253	39,703	1,491	478
Hendricks	52,720	5,999	130	29,906	4,308	930
Henry.....	85,176	14,826	1,206	17,689	12,396	4,295
Howard.....	42,110	10,823	270	14,211	2,342	688
Huntington	207,247	15,632	685	12,358	2,511	1,787
Jackson	12,232	7,888	576	35,350	343	51
Jasper.....	405	614	28	14,723	114	156
Jay	130,144	16,284	482	21,784	1,013	733
Jefferson.....	29,580	5,332	1,413	28,296	1,311	360
Jennings	4,365	1,762	76	23,869	1,375	340
Johnson.....	38,549	13,614	918	10,648	5,065	785
Knox	4,436	3,354	1,360	12,626	1,496	2,699
Kosciusko.....	81,261	11,649	1,007	11,637	4,325	36,697
Lagrange.....	70,056	12,771	1,447	6,669	1,335	6,988
Lake	7,547	1,493	178	1,795	.....	.....
Laporte	25,096	2,331	196	6,535	876	5,218
Lawrence.....	1,005	758	60	16,135	5,328	12,707
Madison.....	57,951	7,696	412	15,337	2,518	2,353
Marion	125,720	18,402	844	13,881	3,600	285
Marshall.....	65,440	8,884	1,364	17,570	2,809	5,850
Martin	120	190	3	21,823	173	.....
Miami.....	114,286	18,943	555	10,200	2,481	1,270
Monroe.....	1,576	1,701	466	16,627	4,234	3,201
Montgomery.....	19,694	9,339	661	18,706	9,164	3,191

TABLE No. VI.—Continued.

Counties.	Gallons of Cider.	Gallons of Vinegar.	Gallons of Wine.	Gallons of Sorghum Molasses.	Gallons of Maple Molasses.	Pounds of Maple Sugar.
Morgan.....	11,121	5,228	468	16,722	2,796	1,413
Newton.....	617	1,182	86	9,657	.....	2,800
Noble.....	83,500	13,820	984	7,801	3,297	4,476
Ohio.....	808	170	70	2,553	350	.....
Orange.....	1,151	1,298	75	21,598	1,520	1,517
Owen.....	5,933	3,159	623	19,212	6,844	4,659
Parke.....	20,115	7,600	275	16,533	9,777	13,064
Perry.....	18,827	4,012	1,603	41,046	387	154
Pike.....	2,860	1,081	228	40,026	1,208	1,501
Porter.....	9,949	2,640	277	4,041	472	1,953
Posey.....	76,627	9,423	1,800	7,513	63	4
Pulaski.....	851	740	624	6,284	122	18
Putnam.....	28,965	6,036	718	14,435	7,796	16,587
Randolph.....	187,480	19,584	448	33,690	2,602	1,591
Ripley.....	55,209	8,042	1,572	44,806	1,134	20
Rush.....	38,928	7,892	305	9,769	13,383	1,215
Scott.....	6,294	2,463	10	13,919	93	.....
Shelby.....	67,011	11,980	773	24,262	1,592	80
Spencer.....	41,554	11,581	1,452	65,235	1,909	811
Starke.....	218	275	115	3,225	9	.....
St. Joseph.....	47,447	7,188	588	8,489	2,761	5,919
Steuben.....	104,380	9,921	1,687	2,671	2,231	8,507
Sullivan.....	4,201	2,889	171	20,264	3,684	12,613
Switzerland.....	18,797	4,219	134	11,529	814	124
Tippecanoe.....	20,641	5,377	656	7,968	885	862
Tipton.....	19,524	1,379	167	14,262	719	242
Union.....	13,639	4,968	222	3,873	4,871	108
Vanderburgh.....	36,264	9,010	1,364	6,578	90	.....
Vermillion.....	7,705	3,367	312	9,320	1,054	810
Vigo.....	8,540	5,455	1,115	18,198	1,159	6,080
Wabash.....	147,870	24,938	1,862	18,519	4,467	3,319
Warren.....	12,844	4,978	322	6,119	208	80
Warrick.....	12,455	5,062	2,594	38,759	798	135
Washington.....	8,044	3,991	95	23,919	1,155	1,602
Wayne.....	78,678	13,581	670	16,423	7,859	495
Wells.....	141,758	15,820	2,848	13,697	1,036	1,112
White.....	8,838	3,543	903	14,237	105	16
Whitley.....	129,885	11,261	669	8,833	1,963	3,534
Totals, 1879.....	4,214,956	668,553	65,357	1,588,232	224,531	250,754
Totals, 1878.....	2,329,668	342,830	38,520	1,094,342	137,407	176,567
Increase.....	1,885,288	325,723	26,837	493,890	87,124	74,187

NOTE.—The Bureau believes that this increase is due more to the greater effort to collect statistics than to increased production.

TABLE No. VII.

WORK OF THRESHERS.

Statement showing the Number of Bushels of Grain and Seeds Threshed by Horse and Steam Threshers, and the Amount of all kinds of Grain and Seeds Trodden or Flailed out—Crop of 1879.

Counties.	Wheat.	Oats.	Barley.	Rye.	Flaxseed.	Clover Seed.	Grain Trodden or Flailed.
Adams	349,653	239,160	4,550	2,942	14,210	10,137	46
Allen	593,187	438,123	1,683	1,691	31,705	24,228	786
Bartholomew	485,241	33,867	7,811	187	1,746	326	765
Benton	99,300	293,164	2,812	7,499	27,204	8	.....
Blackford	119,756	19,529	27	156	8,156	42	28
Boone	355,175	44,159	1,555	3,055	1,498	1,143	50
Brown	91,944	51,730	1,031	188	32	1	1,203
Carroll	838,080	122,325	374	490	17,637	2,427	2,555
Cass	664,987	139,039	1,160	616	3,913	1,284	270
Clark	142,647	21,467	44	676	112	3	179
Clay	299,868	115,011	13,577	780	.....	452	30
Clinton	831,078	173,629	3,445	763	9,436	6,466	3,530
Crawford	50,890	21,462	1	46	52	50	46
Davies	555,610	62,595	413	145	.....	309	237
Dearborn	222,010	101,302	59,830	3,058	62	299	733
Decatur	482,241	52,441	525	907	5,131	770	845
DeKalb	440,818	312,396	631	632	240	12,953	370
Delaware	628,507	57,150	3,140	2,578	21,440	1,405	6,258
Dubois	157,852	62,367	1,000	.....	.....	1,150	1,958
Elkhart	965,460	334,087	150	3,690	1,499	10,518	58
Fayette	466,506	40,121	9,834	1,320	3,634	3,515	258
Floyd	83,190	5,894	1,419	651	.....	.....	.....
Fountain	431,599	66,359	19	1,088	85	66	.....
Franklin	438,861	157,741	52,228	10,522	4,970	1,804	163
Fulton	466,223	101,852	1,396	116	835	3,105	30
Gibson	831,477	19,595	674	16	.....	1,560	.....
Grant	339,883	54,733	2,160	1,029	45,925	1,936	975
Greene	286,143	60,833	335	717	.....	63	954
Hamilton	645,132	68,651	546	10	8,943	72	98
Hancock	478,705	70,316	14,448	2,558	16,616	1,788	640
Harrison	213,556	25,048	1,064	512	47	25	224
Hendricks	375,966	47,947	114	674	1,015	544	50
Henry	645,324	68,687	1,858	750	40,005	4,354	5,973
Howard	414,775	32,937	724	874	18,717	1,005	2,339
Huntington	578,866	137,895	1,777	1,969	56,567	7,690	8,201
Jackson	324,389	24,845	1,078	1,119	212	27	45
Jasper	63,111	144,532	5,579	11,671	12,586	116	272
Jay	349,349	318,813	354	2,243	14,337	2,944	965
Jefferson	232,118	26,285	17,989	1,288	294	30	559
Jennings	140,938	39,890	159	687	.....	.....	146
Johnson	442,140	23,360	201	457	1	1,777	220
Knox	754,777	61,306	2,759	1,518	.....	592	6
Kosciusko	699,531	231,086	2,122	1,208	5,562	16,284	712
Lagrange	756,336	148,247	100	635	36	17,458	73
Lake	27,695	342,501	261	12,320	1,514	2,107	.....
Laporte	964,819	891,959	5,668	5,868	50	6,095	121
Lawrence	165,020	48,296	120	38	9	4	529
Madison	714,152	52,231	2,207	4,519	47,772	2,355	1,197
Marion	569,255	52,446	6,255	673	1,726	262	713
Marshall	636,375	164,229	2,630	1,110	454	6,221	132
Martin	136,110	29,868	1,281	820	100	220	182
Miami	727,857	105,065	4,140	2,163	5,109	1,897	1,527
Monroe	125,256	65,093	49	168	150	1,862	637
Montgomery	585,533	221,090	8,585	1,356	136	2,907	669
Morgan	328,201	23,051	1,475	1,054	1,243	541	10
Newton	51,363	242,751	1,486	12,451	18,992	189	30

TABLE No. VII.—Continued.

Counties.	Wheat.	Oats.	Barley.	Rye.	Flaxseed.	Clover Seed.	Grain Trodden or Flailed.
Noble.....	478,660	144,962	330	353	1,122	18,311	238
Ohio	91,495	5,530	12,406	1,621	.....	.....	100
Orange.....	142,837	25,149	70	157	4	.....	647
Owen.....	145,109	65,286	.....	405	100	271	159
Parke.....	550,894	82,602	882	609	56	1,491	427
Perry	104,006	32,334	2,945	10	9	.....	45
Pike	321,664	52,225	20	89	30	63	7
Porter	293,793	247,015	2,105	6,034	31	1,692	.....
Posey.....	813,349	24,077	3,000	20	.....	2,171	.....
Pulaski.....	327,004	148,340	640	11,301	858	1,803	1,803
Putnam.....	301,664	43,833	500	4,196	.....	1,391	406
Randolph	797,217	203,190	4,559	3,958	48,559	3,594	2,935
Ripley.....	224,031	109,200	16,773	4,356	145	1,412	4
Rush	722,034	36,479	11,475	223	15,696	3,215	2,039
Scott.....	34,261	6,295	.....	10	.....	.....	129
Shelby	660,717	42,858	21,703	1,324	1,290	1,433	236
Spencer.....	215,770	73,253	3,146	667	155	172	575
Starke.....	88,159	20,104	473	7,344	3	1,811	19
St. Joseph.....	841,037	143,791	12,430	946	71	10,846	86
Steuben.....	237,250	109,050	150	290	.....	10,700	.....
Sullivan	444,022	38,686	199	786	.....	24	33
Switzerland.....	121,618	16,292	5,472	8,271	3	15	469
Tippecanoe.....	502,822	258,356	2,250	652	100	142	54
Tipton.....	236,360	112,624	.....	5,607	5,431	207	.....
Union.....	216,902	18,570	7,405	300	8,921	226	897
Vanderburgh	305,452	18,320	.....	.....	.....	266	.....
Vermillion.....	309,309	44,388	12	60	.....	.....	52
Vigo.....	330,841	60,935	540	287	.....	82	61
Wabash.....	754,963	130,675	1,160	4,001	82,118	5,024	1,130
Warren.....	484,733	215,612	970	1,814	8,385	151	50
Warrick	264,855	35,899	1,459	962	67	2,180	73
Washington	122,216	26,293	100	109	486	19	2,898
Wayne.....	510,480	123,953	14,318	6,178	21,365	2,268	1,670
Wells	408,560	127,009	2,394	3,327	42,169	6,430	845
White	242,540	222,742	2,754	8,749	2,986	601	180
Whitley.....	259,390	132,542	63	540	12,309	6,834	430
Total	35,763,955	9,589,337	389,500	200,325	699,134	245,135	71,084

NOTE.—When the remarks at the beginning of the agricultural tables, on pages 40 and 41, were written, this table had been incorrectly added, and therefore the amount of wheat reported by three counties, on those pages, is 1,019,902 bushels too much, and the oats 210 bushels too little.

TABLE No. VIII.

STATEMENT showing the acres and bushels for 1880, of wheat, corn and oats, by townships and counties.

NOTE.—The acreage was reported by the Assessors last April, and the rate per acre was given by the Trustees last September and October, after consulting with ten or more of their neighbors. The acres multiplied by the rate constitute the bushels. The bureau estimated the acres of bottom land corn. There should be some allowance made for corn lost by the floods, but how much is a mere guess. Only the larger streams, however, remained flooded long enough to prevent re-planting.

The star indicates that the rate was estimated by the bureau.

Adams County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
4	30	30					40,920	819	20	16,380
4	30	...					54,640	1,308	20	26,160
1	31	...					86,492	1,255	28	35,140
6	*29	*43					32,736	520	*22	11,440
5	*28	*19					46,155	861	*23	14,295
6	30	35					57,620	718	20	14,860
0	25	...					43,000	557	25	13,925
1	25	40					30,425	1,828	25	45,650
5	30	50					48,450	673	25	16,825
9	20	15					33,740	585	15	8,775
1	28	30					39,062	484	20	9,680
3	*28	*19					36,234	530	*22	11,660
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TABLE No. VIII.—Continued.

Allen County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom				
Wayne.....	1,473	*16	23,568	1,090	*31	*33	40,700	634	*28	17,752
Washington.....	2,702	*16	43,232	1,962	*31	*33	61,312	717	*28	20,076
Springfield.....	4,073	18	73,314	2,764	30	40	86,870	1,328	25	33,200
St. Joseph.....	3,560	15	53,250	2,284	30	...	67,920	1,497	30	44,910
Perry.....	3,835	*16	61,360	2,161	*31	*33	67,707	1,084	*28	30,352
Madison.....	2,800	15	42,000	2,136	50	15	96,125	1,235	20	24,700
Monroe.....	1,942	*16	30,172	1,462	*31	*33	45,740	644	*28	18,032
Marion.....	3,131	18	56,358	2,253	25	45	62,745	1,499	25	37,455
Maumee.....	687	*16	10,992	507	*31	*33	15,861	52	*28	1,456
Milan.....	2,311	12	27,732	1,826	30	40	57,390	911	25	22,755
Lake.....	2,628	*16	40,488	1,861	*31	*33	58,223	52	*28	1,456
Jefferson.....	1,149	18	20,682	2,010	35	30	68,915	950	30	28,500
Kel River.....	3,561	14	49,854	2,509	20	15	48,890	700	25	17,500
Cedar.....	4,190	*16	67,030	2,265	*31	*33	70,861	1,389	*28	38,892
Adams.....	3,411	20	68,220	2,866	30	40	74,860	1,213	30	36,390
Aboite.....	2,061	20	21,220	1,955	30	40	61,450	711	25	17,775
Pleasant.....	3,667	*16	58,672	2,378	*31	*33	74,396	1,243	*28	34,804
Scipio.....	859	15	12,885	1,014	35	...	35,490	264	30	7,920
Lafayette.....	3,744	14	52,416	2,895	37	...	107,015	1,085	40	43,400
Jackson.....	495	*16	7,920	392	*31	*38	12,264	104	*28	2,912
Total.....	52,169	.....	821,365	38,070	...	...	1,213,734	17,312	.....	480,237

Bartholomew County.

Haw Creek.....	4,583	14	64,162	3,938	35	45	143,450	546	20	10,920
Flat Rock.....	4,994	16	79,904	4,489	30	40	141,080	568	17	8,636
German.....	4,286	15	64,290	4,144	30	40	130,380	360	30	10,800
Nineveh.....	2,696	*13	35,048	2,786	*19	*38	58,613	576	*13	7,488
Union.....	2,012	10	20,120	1,497	10	30	19,250	660	*14	9,240
Clifty.....	3,276	*13	42,588	3,383	*19	*3	73,454	432	*13	5,616
Clay.....	2,992	18	53,856	3,078	10	40	44,010	249	10	2,490
Columbus.....	6,816	14½	98,832	9,318	20	40	213,080	1,025	8	8,200
Harrison.....	1,720	11	18,920	1,490	10	...	14,910	758	10	7,580
Rock Creek.....	3,465	13	45,045	3,285	28	...	91,988	355	25	8,875
Sand Creek.....	3,869	13	50,167	4,051	25	35	86,825	1,042	10	10,420
Wayne.....	4,474	17	76,068	6,373	15	35	113,795	1,087	6	6,522
Ohio.....	1,005	9¾	9,380	1,286	10	...	12,860	507	11	5,577
Jackson.....	1,076	7	7,532	1,221	5	...	6,105	673	5	3,365
Total.....	47,264	.....	665,902	50,289	...	...	1,149,800	8,778	.....	105,729

TABLE No. VIII.—Continued.

Benton County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Parish Grove.....	275	12	3,300	9,181	80	...	275,430	1,016	20	20,320
Pine.....	976	15	14,640	5,740	25	...	143,500	1,636	20	82,720
Oak Grove.....	1,125	23	25,875	5,698	50	20	260,480	1,411	25	35,275
Gilboa.....	1,065	12½	13,312	6,973	20	25	144,440	1,910	20	38,200
York.....	889	*15	13,335	12,951	*28	41	386,678	1,045	*22	22,990
Center.....	1,601	*15	24,015	13,646	*28	*41	407,424	3,265	*22	71,830
Bolivar.....	1,650	15	24,750	6,917	25	35	182,705	1,695	20	33,900
Union.....	265	15	3,975	10,728	30	...	321,840	1,481	28	41,468
Richland.....	1,506	16	24,096	9,521	20	40	217,620	1,871	30	56,130
Grant.....	1,060	12	12,720	6,092	25	85	204,500	1,368	15	20,520
Hickory Grove..	79	*15	1,185	1,175	*28	*41	35,084	111	*22	2,442
Total.....	10,491	.....	161,203	88,622	...	...	2,579,701	16,809	.....	375,795

Blackford County.

Licking.....	3,648	17	62,016	4,220	20	35	93,445	701	12	8,412
Washington.....	3,952	16	63,232	3,005	30	40	94,410	2,639	10	26,390
Harrison.....	2,745	17	45,265	2,671	20	25	55,325	404	20	8,080
Jackson.....	8,146	15	47,190	3,754	25	...	93,950	546	25	13,650
Total.....	13,491	.....	217,703	13,650	...	...	337,130	4,290	.....	56,532

Boone County.

Marion.....	4,059	*15	60,885	5,402	*19	*28	104,038	628	*22	13,806
Clinton.....	204	18	3,672	226	25	25	5,650	18	80	540
Washington.....	3,215	*15	48,225	3,393	*19	*28	68,823	328	*22	7,216
Sugar Creek.....	4,074	17	69,258	3,569	8	12	30,588	524	18	9,432
Jefferson.....	5,434	*15	81,510	6,300	*19	*28	126,000	507	*22	11,154
Center.....	2,429	*15	36,435	1,453	*19	*28	29,470	90	*22	1,980
Union.....	1,279	14	17,906	2,423	10	15	25,960	200	25	5,000
Eagle.....	2,791	15	41,865	4,030	25	40	109,625	430	25	10,750
Perry.....	2,428	*15	36,420	3,377	*19	*28	67,538	192	*22	4,224
Harrison.....	3,105	12	37,260	4,146	20	30	88,840	188	25	4,700
Jackson.....	4,556	*15	68,340	5,950	*19	*28	118,999	48	*22	1,056
Worth.....	2,773	16	44,368	2,675	30	50	87,890	236	12	2,832
Total.....	36,347	.....	546,144	42,944	...	...	863,521	3,389	.....	72,690

TABLE No. VIII.—Continued.

Brown County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Hamblen.....	2,576	12	30,912	1,288	25	40	34,960	941	20	18,820
Jackson.....	1,600	*10	16,000	2,315	*19	*30	47,615	835	*16	13,360
Washington.....	2,228	*10	22,280	2,070	*19	*30	42,575	1,285	*16	20,560
Van Buren.....	2,832	10	28,320	3,790	12	20	49,808	2,102	8	16,816
Johnson.....	793	10	7,930	2,139	20	30	45,830	176	20	3,520
Total.....	10,029	.....	105,442	11,602	...	...	220,788	5,339	.....	73,076

Carroll County.

Jackson.....	2,427	18	61,686	2,564	25	...	64,100	646	25	16,150
Madison.....	1,925	*17	32,725	1,700	*24	*35	43,132	360	*21	7,560
Deer Creek.....	4,284	18	77,212	3,739	30	40	117,510	1,057	25	26,425
Tippecanoe.....	3,436	18	61,848	3,230	20	20	64,600	565	20	11,300
Jefferson.....	3,206	*17	54,502	3,775	*24	*35	95,792	562	*21	11,802
Adams.....	3,023	15	45,345	2,458	18	15	48,191	375	15	5,625
Rock Creek.....	4,458	20	89,160	2,694	20	50	65,430	586	25	14,650
Washington.....	2,851	20	57,020	2,327	40	60	99,720	292	40	11,680
Carrollton.....	2,638	16	42,208	2,233	15	45	43,065	507	20	10,140
Burlington.....	3,558	16	56,928	3,166	15	25	52,010	359	10	3,590
Monroe.....	8,867	20	177,340	2,025	40	...	81,000	294	20	5,880
Democrat.....	3,922	16	62,752	2,950	20	25	41,118	292	10	2,920
Clay.....	1,458	*17	24,786	1,031	*24	*35	26,361	390	*21	8,190
Total.....	47,053	.....	843,512	33,892	...	...	837,029	6,282	.. ..	125,912

Cass County.

Boone.....	3,143	18	56,474	3,020	20	...	60,400	671	25	16,773
Harrison.....	3,245	15	48,675	3,009	20	40	68,760	697	30	20,910
Bethlehem.....	3,482	15	52,230	2,858	40	5	100,040	577	15	8,655
Jefferson.....	3,146	*16	50,336	3,081	*26	*30	81,866	677	*20	13,540
Noble.....	2,236	*16	35,776	1,997	*26	*30	58,062	334	*20	6,680
Clay.....	2,079	16	33,264	2,024	25	...	50,600	389	18	7,002
Adams.....	1,442	13	18,746	1,889	18	25	35,884	258	20	5,160
Miami.....	2,381	15	35,715	2,059	25	...	51,475	447	20	8,940
Eel.....	440	15	6,600	564	40	...	22,560	180	21 1/4	2,825
Clinton.....	1,486	20	29,720	2,384	25	40	65,700	559	25	13,975
Washington.....	3,104	*16	49,664	3,059	*26	*30	81,058	466	*20	9,320
Tipton.....	6,078	18	91,404	4,310	20	30	92,350	747	15	11,205
Deer Creek.....	3,688	18	66,388	3,909	15	45	75,375	509	15	7,635
Jackson.....	2,682	15	40,230	2,884	35	30	97,780	312	25	7,780
Total.....	37,632	.....	615,222	37,047	...	...	936,910	6,823	...	140,402

TABLE No. VIII.—Continued.

Clark County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Jeffersonville.....	1,155	*9	10,395	1,852	*19	*29	27,358	313	*16	5,008
Utica	1,767	12	21,204	1,743	30	25	51,035	260	14	3,640
Charlestown.....	4,799	*9	43,191	4,985	*19	*29	101,835	1,257	*16	20,112
Owen	1,922	5	9,610	2,065	15	25	33,925	612	15	9,138
Bethlehem	1,636	*9	14,724	1,682	*19	*29	34,358	562	*16	8,992
Washington.....	2,730	*9	24,570	2,990	*19	*29	61,076	1,326	*16	21,216
Monroe	1,530	*9	13,770	2,691	*19	*29	54,969	1,295	*16	20,720
Silver Creek.....	933	7	6,531	1,433	20	25	29,680	587	19	11,153
Wood	1,138	12	13,656	1,154	20	40	26,380	888	25	22,200
Oregon.....	2,177	*9	23,593	2,819	*19	*29	57,581	1,248	*16	19,960
Carr.....	689	10	6,890	1,339	10	80	17,210	749	8	5,992
Union.....	1,159	*9	10,431	1,398	*19	*29	28,552	806	*16	12,896
Total.....	21,635	.....	198,565	25,651	...	...	523,959	9,903	...	161,027

Clay County.

Posey	4,097	13	53,261	2,854	25	...	71,350	850	12	10,200
Dick Johnson...	1,599	15	23,985	1,368	30	60	46,890	381	10	3,810
Van Buren.....	2,096	15	31,440	2,224	15	...	33,360	363	20	17,260
Jackson.....	3,001	18	54,008	2,028	37	50	75,345	754	20	15,080
Brazil.....	150	12	1,800	640	40	65	27,875	55	30	1,650
Perry	5,003	18	90,054	3,087	20	50	74,970	888	25	22,200
Lewis.....	4,524	12	54,288	4,533	15	30	77,715	861	25	21,525
Harrison.....	5,137	20 $\frac{1}{4}$	104,740	4,517	30	50	148,460	859	30	25,770
Washington.....	3,341	16	53,456	3,032	30	45	97,455	791	25	19,775
Cass	1,447	*15	21,705	*2,488	*27	*47	76,561	224	*21	4,704
Sugar Ridge.....	1,198	12	14,376	553	10	30	7,110	141	20	2,820
Total.....	31,593	.....	503,113	27,319	...	...	737,091	6,617	...	144,294

Clinton County.

Center.....	3,354	15	50,310	3,967	35	...	138,845	1,198	30	35,940
Jackson.....	5,025	*16	80,400	6,794	*23	*20	153,997	891	*17	15,147
Washington.....	3,412	17	58,004	3,244	25	25	81,100	688	20	13,760
Perry	3,151	15	47,265	3,857	20	10	71,630	416	12	44,992
Madison.....	2,339	13 $\frac{1}{2}$	31,576	3,167	20	...	63,340	847	10	8,470
Ross.....	2,883	19	54,777	3,694	25	...	92,850	879	15	13,185
Kirklin	3,731	15	55,965	5,135	20	...	102,700	484	15	7,260
Michigan.....	4,749	*16	75,984	4,981	*23	*20	112,597	383	*17	6,511
Warren.....	4,500	16	72,000	4,190	25	...	104,750	498	20	9,960
Owen	2,779	18	50,022	2,500	20	25	53,035	270	20	5,400
Sugar Creek.....	1,930	14	27,020	264	20	...	5,280	*582	15	8,730
Johnston.....	4,844	*16	77,504	6,560	*23	*20	148,420	360	*17	6,120
Frankfort City.	318	*16	5,088	273	*23	*20	6,162	71	*17	1,207
Total.....	43,015	...	685,915	48,686	...	...	1,134,206	7,567	...	176,682

TABLE No. VIII.—Continued.

Crawford County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Jennings.....	1,732	* 9	14,586	2,611	*17	*30	49,936	1,062	*15	16,630
Whiskeyrun.....	1,751	* 9	16,759	2,216	*17	*30	41,780	1,191	*15	17,865
Liberty.....	601	* 9	5,409	835	*17	*30	15,742	545	*15	8,175
Sterling.....	1,851	* 9	12,159	2,767	*17	*30	52,174	1,166	*15	17,490
Patoka.....	2,261	5	11,305	2,827	15	25	46,445	1,244	10	12,440
Johnson.....	1,153	* 9	11,377	1,261	*17	*30	23,777	568	*15	8,520
Union.....	353	12	6,436	364	20	30	7,800	169	16	2,536
Ohio.....	1,112	9	10,008	2,061	17	35	40,329	515	20	10,300
Boone.....	381	* 9	3,429	592	*17	*30	11,026	170	*15	2,560
Total.....	10,695	...	89,470	15,534	...	...	228,309	6,630	...	95,405

Daviess County.

Wash'gton City	1,219	*12	14,628	534	*23	*39	13,368	136	*18	2,448
Washington Tp.	8,179	*12	88,148	5,202	*23	*39	131,534	615	*18	11,070
Veale.....	3,198	18	57,456	2,282	25	...	56,050	486	10	4,260
Reeve.....	6,310	15	94,650	4,473	15	35	79,876	1,183	20	23,660
Harrison.....	4,042	10	43,490	3,070	25	40	83,305	829	20	10,580
Montgomery.....	170	*12	2,040	61	*23	*39	1,515	10	*18	180
Barr.....	11,649	*12	149,788	5,658	*23	*39	143,062	1,724	*18	31,032
Van Buren.....	4,163	18	64,106	1,844	18	...	33,182	877	19	16,663
Madison.....	5,028	*12	60,336	2,696	*23	*39	68,214	1,056	*18	19,008
Elmore.....	3,829	17	68,093	3,343	25	40	88,020	432	20	8,640
Steale.....	4,421	14	61,894	4,271	25	40	116,925	239	30	7,170
Bogard.....	4,654	10	45,540	2,967	30	...	89,010	620	10	6,900
Total.....	57,062	...	747,169	28,303	...	...	903,090	7,887	...	141,011

Dearborn County.

Harrison.....	1,376	*10	12,760	2,196	*28	*42	59,572	401	*14	5,614
Logan.....	1,518	8	12,144	1,118	15	25	29,860	528	16	8,448
Miller.....	2,024	10	20,240	2,428	30	...	72,840	869	10	8,690
Lawrenceburgh	1,211	12	14,532	2,054	25	50	58,675	519	4	2,076
Center.....	793	11	8,723	1,068	31	37	34,658	261	15	3,915
Hogan.....	1,446	8	11,568	1,378	30	45	44,295	612	15	9,180
Manchester.....	4,832	12	57,984	3,305	30	60	113,900	1,659	10	16,590
York.....	1,496	12	17,952	1,080	35	50	40,160	793	12	9,516
Kelec.....	1,574	*10	16,740	1,688	*26	*42	47,744	999	*14	13,986
Jackson.....	1,646	12	19,752	1,011	20	...	20,220	40	20	800
Sparta.....	2,194	12	26,712	1,679	20	35	37,165	595	20	11,900
Clay.....	1,692	*10	16,920	1,693	*26	*42	47,890	477	*14	6,678
Cassac Creek.....	903	10	9,030	1,005	30	40	34,410	189	20	2,780
Washington.....	1,141	*10	11,410	1,129	*26	*42	31,930	224	*14	3,136
Town of St Leon	733	*10	7,330	567	*26	*42	16,038	436	*14	6,104
Moore's Hill.....	■	*10	320	36	*26	*42	1,016	8	*14	112

TABLE No. VIII.—Continued.

Decatur County.

Townships.	Acres of Wheat 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Washington.....	5,558	18	100,008	7,089	40	50	293,680	1,251	40	50,040
Fugit	3,710	16	59,360	4,743	35	...	166,105	867	25	21,675
Clinton.....	2,195	21	46,095	2,765	35	50	102,700	722	30	21,660
Adams.....	3,520	18	63,360	4,710	30	40	148,020	741	16	11,856
Clay.....	6,965	17½	121,887	6,411	30	...	192,330	735	15½	11,392
Jackson.....	4,654	15	69,810	4,923	30	...	147,690	591	20	11,820
Sand Creek.....	3,335	*16	53,360	3,904	*30	*41	123,247	699	*22	15,878
Marion.....	3,745	16	59,920	3,938	*30	*41	124,322	1,289	*22	27,038
Salt Creek.....	1,559	*16	24,944	1,938	10	25	23,525	1,112	*10	11,120
Greensb'g City...	.....	.....	.....	.....	...	...	.....	.....	.....	.....
Total.....	35,289	.....	598,744	40,421	...	...	1,321,619	7,947	.....	181,979

DeKalb County.

Butler.....	2,457	14	34,398	1,313	25	40	38,130	524	25	13,100
Jackson.....	3,392	18	61,056	2,277	30	...	68,310	1,303	25	32,575
Concord.....	3,361	14	47,054	2,311	20	40	52,820	1,459	28	40,862
Newville.....	228	15	3,420	109	30	15	3,045	101	20	2,020
Stafford.....	1,522	20	30,440	816	25	7	18,812	576	27	15,552
Wilmington.....	3,307	14	46,298	2,111	25	...	52,775	1,302	25	32,550
Union.....	3,035	16	48,560	1,537	25	...	38,425	977	30	29,310
Richland.....	357	22	7,854	152	40	40	6,080	104	30	3,020
Fairfield.....	4,242	20	84,840	2,248	40	10	80,290	1,008	35	35,280
Smithfield.....	2,706	17	46,002	1,538	30	18	43,512	1,033	25	35,825
Franklin.....	3,542	*17	60,214	2,254	*28	*23	61,502	1,702	*28	47,656
Troy.....	1,451	18	26,118	1,027	30	...	30,810	861	35	30,135
Keyser.....	2,144	20	42,880	1,181	25	...	29,525	539	30	16,170
Total.....	31,744	.....	539,134	18,874	...	...	523,536	11,489	.....	334,145

Delaware County.

Salem.....	2,281	18	41,058	3,680	25	30	94,700	257	30	7,710
Mt. Pleasant.....	2,885	15	43,275	3,016	20	25	62,475	235	25	5,875
Harrison.....	3,832	16	61,312	3,634	25	40	98,635	321	25	8,025
Washington	2,432	*17	41,364	2,892	*22	*31	67,341	107	*20	2,140
Monroe	3,366	18	60,588	3,798	30	40	119,360	215	20	6,800
Center.....	1,724	*17	29,808	2,249	*22	*31	52,367	293	*20	5,860
Hamilton	1,496	16	23,936	1,931	18	35	48,450	196	15	2,840
Union.....	2,975	17	50,575	2,991	25	30	76,910	450	25	11,250
Perry.....	3,525	18	63,450	3,783	20	25	78,360	335	12	4,020
Liberty	3,319	18	59,742	4,141	20	40	94,640	385	15	5,775
Delaware.....	2,108	17	35,836	1,934	18	20	35,364	216	20	4,320
Niles.....	2,352	*17	39,984	3,088	*22	*31	70,714	305	*20	6,100
Total.....	32,295	.....	550,428	37,137	...	...	894,316	3,315	...	70,215

TABLE No. VIII.—Continued.

Dubois County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Columbia.....	1,086	98	8,763	1,330	8	12	11,400	546	20	10,820
Harrison.....	2,112	94	19,006	2,188	19	25	43,210	1,288	17	21,898
Boone.....	3,091	99	28,819	2,793	19	25	55,161	742	17	12,614
Madison.....	2,126	15	31,878	2,397	40	...	95,880	1,066	20	21,120
Bainbridge.....	2,230	10	22,300	1,735	35	35	71,965	906	30	27,180
Marion.....	1,479	10	14,790	1,291	15	35	23,045	1,026	15	15,390
Hall.....	1,686	99	15,174	1,831	19	25	36,365	1,126	17	19,148
Jefferson.....	1,222	7	8,624	1,686	15	25	27,700	1,046	9 1/2	9,937
Jackson.....	9,064	8	72,512	1,864	20	35	41,270	1,147	6	6,882
Patoke.....	2,654	8	21,232	2,265	20	25	47,330	1,094	20	21,880
Cass.....	3,130	12	37,560	2,422	12	18	31,140	1,021	25	25,525
Ferdinand.....	2,876	7	16,632	133	10	16	1,375	1,556	10	15,560
Huntingburgh.....	.....	...	.....	.....	...	...	.....	...	...	.....
Total.....	32,275	...	296,294	21,965	...	...	485,831	12,553	...	208,036

Elkhart County.

Elkhart.....	3,441	21 1/2	74,608	1,015	45	...	86,175	572	32 1/2	18,800
Clinton.....	4,725	14	66,160	2,240	50	30	103,600	1,034	30	31,020
Benton.....	5,675	18	102,096	2,240	40	30	84,100	966	25	24,150
Jackson.....	4,487	18	79,868	2,293	45	20	95,010	804	22	17,688
Harrison.....	3,810	18	68,580	1,965	40	25	71,400	962	28	26,836
Concord.....	4,688	16	73,408	2,239	38	30	78,690	740	27	19,980
Baugo.....	2,102	17	35,734	1,193	28	...	33,404	422	25	10,550
Olive.....	2,344	16	35,160	1,245	50	...	62,250	943	20	18,860
Jefferson.....	3,037	17	51,629	1,616	35	25	54,260	505	35	17,675
Middleburg.....	4,892	18	79,066	1,321	40	...	52,840	695	35	20,825
York.....	2,854	15	42,810	1,632	30	55	63,620	263	30	7,890
Washington.....	2,430	17 1/2	42,850	1,823	38	...	60,158	315	20	6,300
Osalo.....	2,793	16	44,688	1,760	36	30	61,854	218	27	5,886
Cleveland.....	1,969	18	31,344	10,949	36	30	384,760	616	27	16,605
Union.....	3,558	15	53,370	2,887	30	...	70,110	1,269	25	32,200
Locke.....	1,764	15	26,460	1,113	35	...	38,965	728	25	19,200
Total.....	58,809	.....	907,809	36,081	...	...	1,413,197	10,970	.....	294,855

Fayette County.

8	30	40	133,820	572	8	4,614
19	25	40	108,890	496	20	9,920
10	35	43	97,190	432	17	7,364
6	35	43	89,199	451	17	7,667
7	38	...	83,478	396	9	3,564
0	35	43	132,284	453	17	7,701
1	40	50	191,850	631	25	15,775
3	35	43	106,007	330	17	5,610
0	40	...	11,480	390	25	9,750
8	...	...	964,197	4,158	.....	71,967

TABLE No. VIII.—Continued.

Floyd County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels Acre.		Bushels of Corn, in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
New Albany.....	1,835	*10	18,350	1,764	*20	*41	40,572	656	*17	11,136
Greenville.....	2,042	11	22,462	1,936	16	40	87,648	1,287	20	24,740
Georgetown.....	2,428	11	26,708	1,636	40	60	70,100	700	21	14,700
Lafayette.....	1,477	13	19,201	1,261	15	46	23,415	560	20	11,780
Franklin.....	1,240	8	9,920	1,294	10	25	15,716	430	8	2,580
Total.....	9,022	....	96,641	7,891	...	...	187,460	3,613	.....	64,936

Fountain County.

Jackson.....	4,070	*17	69,190	3,474	*25	*23	85,868	320	*14	4,480
Mill Creek.....	4,824	17	82,008	3,933	30	...	101,790	456	25	11,400
Fulton.....	2,222	18	39,996	2,262	20	30	48,250	346	6	1,528
Wabash.....	3,169	*17	53,703	3,042	*25	*23	75,185	627	*14	8,778
Cain.....	4,191	17	71,247	3,824	25	10	87,410	*463	15	7,945
Van Buren.....	4,784	15	71,760	3,851	20	30	61,090	732	*14	9,248
Troy.....	4,179	*17	71,043	3,942	*25	*23	97,660	811	*14	11,354
Richland.....	6,651	*17	111,367	6,450	*25	*23	159,408	813	*14	11,378
Shawnee.....	5,651	18	101,718	3,298	20	...	65,960	512	10	5,120
Logan.....	2,284	*17	38,828	3,741	*25	*23	92,590	83	*14	1,148
Davis.....	2,718	20	54,360	3,600	35	...	128,100	134	15	2,000
Total.....	44,683	.....	706,220	41,527	...	...	1,003,201	5,316	.....	73,670

Franklin County.

Bath.....	3,138	*11	23,480	2,696	*22	*34	62,900	318	*16	4,770
Springfield.....	2,914	*11	26,409	4,718	*22	*34	111,884	1,149	*16	17,235
White Water.....	2,416	*11	26,576	8,036	*23	*34	190,768	1,041	*16	16,616
Highland.....	2,844	*11	31,284	2,097	*22	*34	63,378	1,589	*16	23,836
Brookville.....	4,919	12	59,028	6,625	20	30	141,980	1,256	25	21,400
Fairfield.....	1,929	20	26,580	1,420	30	40	44,630	239	20	4,780
Blooming Grove	1,514	10	15,140	1,637	25	40	44,435	469	15	7,035
Laurel.....	1,806	*11	19,866	2,919	*23	*34	69,222	669	*15	9,885
Metamora.....	1,510	10	15,100	2,490	23	41	53,860	432	18	7,776
Butler.....	2,766	8	22,128	3,490	20	30	53,350	1,862	8	6,810
Ray.....	3,480	8	20,880	2,712	15	25	44,450	1,547	10	15,470
Salt Creek.....	1,917	11	21,087	1,741	*22	*34	41,278	505	2	1,010
Posey.....	1,993	14	18,102	1,929	25	35	60,975	383	20	10,880
Brookville Corp.	.....	...	.....	.....	...	...	.....	.....	.....	.....
0	...	...	...	...	...	...	983,690	10,929	.....	146,811

TABLE No. VIII.—Continued.

Fulton County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Wayne.....	3,015	18	54,270	3,129	25	....	78,225	1,148	80	34,440
Union.....	2,689	18	48,402	2,269	35	....	79,415	536	20	10,720
Anbbeenaubbee.	1,764	18	81,752	1,369	35	....	47,915	396	25	9,900
Liberty	3,570	17	60,690	3,836	25	40	90,540	780	25	19,500
Rochester	5,125	*17	87,125	4,917	*31	*42	160,149	2,401	*25	60,025
Richland.....	4,064	*17	69,088	3,025	*31	*42	98,527	631	*25	15,775
Henry.....	3,603	15	54,045	2,711	35	45	98,755	784	24	18,816
Newcastle.....	3,619	*17	61,523	3,138	*31	*42	102,217	362	*25	9,050
Total.....	27,449	....	466,895	23,894	....	....	755,743	7,038	....	178,226

Gibson County.

Columbia	8,296	*14	46,144	1,856	*33	*36	61,944	207	*19	3,933
Patoka.....	14,224	*14	199,136	13,914	*33	*36	465,126	413	*19	7,847
White River.....	5,278	20	105,560	3,932	35	50	146,035	218	*20	4,360
Washington	4,062	12	48,744	2,414	30	25	70,695	142	*20	2,840
*Montgomery ...	14,349	17	243,893	8,072	35	35	282,500	283	*20	5,660
*Johnson	14,349	12	172,188	8,072	30	40	243,690	283	*20	5,860
Wabash	1,473	*14	20,208	2,485	*33	*36	83,070	186	*20	3,790
Barton.....	5,578	10	55,780	2,779	35	30	95,280	478	85	16,730
Center.....	4,766	*14	66,724	2,786	*33	*36	93,132	102	*20	2,040
Total.....	67,375	....	958,377	46,310	....	....	1,541,472	2,313	....	52,990

Grant County.

VanBuren.....	3,187	*17	54,179	3,903	*21	*38	91,431	527	*20	10,540
Washington	2,696	*17	45,832	2,602	*21	*38	60,949	552	*20	11,040
Pleasant.....	*2,659	*17	45,203	*2,917	*21	*38	68,329	*364	*20	7,280
Richland.....	2,678	*17	45,796	2,413	*21	*38	56,521	161	*20	3,220
Center.....	1,212	17	20,604	2,154	18	40	45,536	393	15	5,895
Mill.....	2,245	*17	38,165	2,747	*21	*38	64,351	397	*20	7,940
Monroe	2,768	14	38,852	2,785	10	30	85,810	529	20	10,580
Jefferson.....	4,273	18	76,914	3,966	20	40	90,640	329	10	3,290
Fairmount.....	*2,659	16	42,544	*2,917	20	80	62,520	*364	25	9,100
Liberty	3,262	20	65,240	4,423	40	50	183,240	375	25	9,375
Green	1,521	*17	25,857	1,755	*21	*38	40,578	114	*20	2,280
Sims.....	2,281	*17	38,777	2,754	*21	*38	64,515	255	*20	5,100
Franklin.....	3,127	20	62,540	2,592	20	40	59,240	375	30	11,250
Total.....	34,568	....	600,433	37,923	....	....	923,660	4,735	....	96,890

TABLE No. VIII.—Continued.

Greene County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Richland.....	2,090	14	39,260	1,967	25	45	50,795	770	25	18,750
Taylor.....	3,543	*12	42,516	2,634	*20	*33	56,463	672	*18	12,096
Cass.....	2,122	*12	25,464	1,472	*20	*33	31,559	204	*18	3,772
Jackson.....	1,938	*12	23,256	3,408	*20	*33	78,698	1,556	*18	28,008
Center.....	2,034	11	22,374	2,899	22	35	69,160	1,334	15	20,010
Beech Creek.....	1,699	8	13,592	1,990	15	20	31,270	1,042	15	15,630
Highland.....	2,345	12	28,140	2,207	20	40	50,240	911	10	9,110
Eel River.....	864	10	8,640	877	25	40	23,800	186	40	7,440
Fair Play.....	1,800	*12	21,600	2,938	*20	*33	63,531	367	*18	6,606
Smith.....	2,381	*12	28,576	2,600	*20	*33	56,925	511	*18	9,198
Wright.....	4,450	12	53,400	2,932	20	20	58,640	716	5	3,580
Stockton.....	3,555	15	53,325	2,533	35	...	88,655	653	*19	12,407
Stafford.....	3,441	15	51,615	2,840	20	...	5,680	425	10	4,250
Washington.....	4,208	12	50,496	5,232	15	30	119,686	635	*19	12,065
Jefferson.....	1,510	15	20,650	1,533	10	40	21,840	352	30	10,550
Worthington....	419	*12	5,028	688	*20	*33	15,034	284	*18	5,112
Grant.....	1,703	*12	20,436	1,446	*20	*33	31,598	286	*18	5,148
Total.....	40,102	.....	508,268	40,196	...	...	847,874	10,904	.....	183,733

Hamilton County.

Noblesville.....	6,065	16	97,045	7,065	18	20	129,188	950	20	19,000
Washington.....	6,120	16	97,920	7,500	20	...	150,000	675	15	10,125
Clay.....	4,218	15	63,270	4,775	25	...	119,375	542	20	10,840
Delaware.....	3,368	15	50,520	4,225	25	40	114,670	803	20	16,060
Fall Creek.....	3,774	15	56,610	4,100	8	8	32,800	375	10	3,750
Wayne.....	4,790	16	76,640	4,500	20	25	93,215	697	16	11,152
White River.....	5,264	*16	74,224	6,291	*21	*31	141,091	617	*17	10,480
Jackson.....	5,982	15	89,730	4,206	20	...	84,120	334	10	3,340
Adams.....	4,171	20	83,420	6,854	35	...	239,890	569	25	14,225
Total.....	43,752	.....	689,379	49,516	...	...	1,104,349	5,562	.....	98,973

Hancock County.

Blue River.....	3,275	17	55,675	3,387	40	50	140,310	413	25	10,325
Brown.....	3,355	*17	57,035	4,084	*26	*37	112,597	420	*23	9,660
Brandywine.....	3,422	16	54,752	3,179	30	45	101,780	161	20	3,220
Buck Creek.....	3,077	18	55,386	4,048	25	...	101,200	393	20	7,860
Center.....	6,278	18	113,004	6,545	25	25	163,625	858	30	10,740
Green.....	3,094	*17	52,598	3,362	*26	*37	92,796	349	*23	8,027
Jackson.....	4,050	18	72,900	4,782	15	40	88,805	380	20	7,600
Sugar Creek.....	5,443	18	97,974	4,530	30	40	145,670	816	20	16,320
Vernon.....	2,644	15	39,660	3,727	20	25	77,200	332	30	9,960
Total.....	34,638	.....	598,984	37,644	...	...	1,023,983	3,622	.....	83,712

TABLE No. VIII.—Continued.

Harrison County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Harrison.....	7,297	*10	72,970	5,279	*22	*40	129,880	1,652	*13	21,476
Boone.....	4,485	11	49,335	2,855	20	40	65,200	985	20	19,800
Heth.....	4,686	9.3	43,579	2,365	18	39	49,448	980	10	9,800
Posey.....	2,876	10	28,760	2,970	20	36	60,260	834	10	8,340
Franklin.....	2,725	8	21,800	1,810	15	50	36,180	800	6	4,800
Morgan.....	8,090	*10	30,900	2,220	*22	*40	54,762	1,296	*13	16,848
Blue River.....	2,710	*10	27,100	2,142	*22	*40	52,632	388	*13	4,979
Washington.....	1,361	10	13,610	869	30	40	27,310	327	20	6,540
Taylor.....	2,243	12	26,916	1,512	20	40	34,560	495	10	4,950
Webster.....	1,788	*10	17,880	1,452	*22	*40	35,870	740	*13	9,620
Jackson.....	2,626	*10	26,260	2,004	*22	*40	37,796	682	*13	8,476
Spencer.....	89	*10	890	93	*24	*40	2,280	82	*13	416
Scott.....	2,096	10	20,960	1,787	30	40	56,160	690	15	10,350
Total.....	38,071	—	380,951	26,651	—	—	681,876	9,846	—	125,896

Hendricks County.

Center.....	4,453	17	75,701	5,034	30	40	158,210	924	18	16,632
Washington.....	3,580	*17	60,520	3,986	*25	*38	105,585	416	*20	8,320
Guilford.....	4,076	16	65,216	3,844	20	40	76,420	526	10	5,260
Liberty.....	4,484	16	80,712	5,377	30	40	169,990	597	15	8,955
Franklin.....	2,778	12	33,336	3,210	20	30	68,780	344	20	6,880
Clay.....	2,062	16	32,832	2,380	30	45	56,100	223	30	6,690
Marion.....	2,867	15	43,005	3,839	25	—	95,975	504	15	7,560
El River.....	4,011	15	60,165	5,018	30	40	167,710	615	20	12,300
Union.....	3,320	*17	39,440	3,678	*25	*38	97,917	265	*20	5,300
Middle.....	3,363	*17	57,171	4,297	*25	*38	112,812	432	*20	8,640
Brown.....	3,280	25	84,500	3,543	30	—	106,360	300	40	12,000
Lincoln.....	2,702	18	48,636	2,946	12	25	40,825	315	20	6,300
Total.....	—	—	—	—	—	—	—	—	—	—

Henry County.

Wayne.....	3,524	*17	59,908	4,432	*27	*35	114,442	380	*28	10,080
Franklin.....	3,849	18	69,282	4,525	30	25	135,450	453	30	13,590
Dudley.....	3,846	17	65,382	5,271	20	30	112,950	611	30	12,220
Liberty.....	4,835	*17	81,395	5,850	*27	*35	164,650	1,042	*28	29,176
Henry.....	4,804	*17	81,668	5,386	*27	*35	151,547	408	*28	11,368
Greensboro.....	3,070	18	55,260	4,180	25	35	109,160	435	27	11,745
Harrison.....	4,400	15	66,000	5,149	25	45	143,425	420	45	18,900
Fall Creek.....	6,496	20	109,920	2,690	25	35	87,650	415	10	4,150
Prairie.....	3,755	18	67,590	4,790	45	20	198,450	452	30	13,560
Stony Creek.....	2,045	18	36,810	2,154	25	40	58,735	297	30	8,910
Spiceland.....	3,069	18	55,242	3,870	20	50	69,700	446	35	15,680
Jefferson.....	2,741	18	49,338	2,798	30	30	88,940	158	20	3,060
Blue River.....	2,586	18	46,548	2,954	30	40	92,840	385	33	12,705
Total.....	48,090	—	844,843	68,098	—	—	1,492,909	5,877	—	105,144

TABLE No. VIII.—Continued.

Howard County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Center.....	3,506	18	63,108	3,970	20	40	90,740	485	30	14,550
Edwin.....	5,764	15	86,460	4,786	25	30	123,065	368	15	5,520
Monroe.....	2,496	17	42,432	2,226	25	35	58,830	207	25	5,175
Clay.....	2,804	18	50,472	2,602	20	30	55,750	226	25	5,650
Harrison.....	3,138	16	50,208	3,061	20	20	61,220	292	15	4,380
Honey Creek.....	1,937	18	34,866	1,651	35	...	57,065	14	40	560
Taylor.....	3,284	16	52,544	3,494	15	20	54,905	193	25	4,895
Howard.....	3,792	16	60,672	3,507	20	...	70,140	583	20	11,680
Liberty.....	3,672	17	62,424	3,452	28	...	96,656	376	20	7,520
Union.....	3,613	15	52,195	4,156	30	35	127,645	260	15	3,900
Jackson.....	1,690	20	33,800	1,994	25	...	49,850	210	20	4,200
Total.....	35,696	.....	589,181	34,899	...	...	845 866	3,214	.....	68,010

Huntington County.

Jackson.....	3,254	20	65,080	2,861	40	25	108,320	1,097	30	32,910
Clear Creek.....	3,727	18	67,086	2,674	30	...	80,220	1,168	20	23,360
Warren.....	3,572	16	57,152	7,761	18	...	139,698	550	25	13,750
Dallas.....	2,503	15	27,545	1,388	15	25	22,300	510	30	15,300
Huntington.....	4,451	18	82,062	3,295	40	60	141,200	856	35	29,960
Union.....	2,823	18	50,814	2,531	15	45	48,795	546	25	13,650
Rock Creek.....	4,118	16	65,888	4,206	20	35	93,135	946	18	17,028
Lancaster.....	3,703	16	59,248	1,954	30	40	61,410	472	30	14,160
Polk.....	2,456	16	39,296	2,381	25	40	64,625	342	25	8,550
Wayne.....	2,217	16	35,472	1,343	20	...	26,860	296	20	5,920
Jefferson.....	3,174	18	57,132	3,419	20	35	75,700	490	15	7,350
Salamonie.....	3,092	*17	51,664	3,361	*25	*38	89,485	377	*25	9,425
Huntingt'n O'y..	108	*17	1,836	.....	...	...	.....	46	*25	1,150
Total.....	39,198	.....	660,276	37,174	...	...	951,748	7,696	.....	192,513

Jackson County.

Grassy Fork.....	3,122	*11	34,342	3,233	*17	*26	59,119	1,338	*21	28,098
Brownstown.....	2,669	15	55,035	4,875	30	45	154,690	1,486	20	29,720
Washington.....	3,169	6	18,000	3,487	*17	*26	63,761	1,240	(?) 4	5,000
Jackson.....	3,035	*11	33,385	3,940	*17	*26	72,042	965	*21	20,265
Redding.....	1,603	12	19,236	2,283	15	25	37,505	228	30	6,840
Vernon.....	2,548	9	22,932	2,663	25	20	64,675	519	20	10,380
Hamilton.....	4,144	10	41,440	7,059	10	10	70,590	1,238	20	24,760
Carr.....	1,536	15	23,040	3,586	10	30	46,100	913	35	31,655
Owen.....	1,671	15	25,065	3,178	13	30	49,032	1,640	25	41,000
Salt Creek.....	1,904	*11	20,944	3,296	*17	*26	60,262	2,209	*21	46,889
Driftwood.....	1,759	12	21,108	3,216	20	25	66,595	757	18	13,626
Seymour City....	.....	...	.....	.....	...	...	.....	.....	...	.....
Total.....	28,160	...	314,527	40,815	...	...	746,371	12,533	.....	302,733

TABLE No. VIII.—Continued.

Jasper County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Hanging Grove..	1,211	12	14,532	2,540	15	...	38,100	897	17	15,249
Gillam.....	1,441	12	17,292	1,713	25	...	42,825	596	30	17,880
Walker	305	10	3,050	871	30	...	26,130	349	15	5,235
Barkley.....	1,213	*12	14,556	2,961	*25	*18	71,435	790	*21	16,590
Rensselaer town .....	...	...	...	284	*25	*18	6,855	20	*21	420
Marion.....	1,338	*12	16,056	4,570	*25	*18	110,690	3,631	*21	76,251
Jordan.....	822	*12	9,864	5,216	*25	*18	126,340	1,790	*21	37,590
Newton	650	12	7,800	2,894	40	10	103,400	1,096	25	27,400
Keener.....	116	*12	1,392	934	*25	*18	20,122	201	*21	4,221
Kankakee.....	855	*12	4,260	652	*25	*18	15,733	272	*21	5,712
Wheatfield.....	208	9	1,872	431	22	22	9,504	147	19	2,793
Carpenter.....	983	14	13,902	9,891	22	...	217,602	2,527	25	63,175
Remingt'n town	10	*12	120	80	*25	*18	1,930	15	*21	315
Milroy.....	150	15	2,250	796	30	35	24,345	168	10	1,680
Union.....	825	14	4,550	743	20	5	13,270	106	30	3,180
Total	9,127	.....	111,496	34,476	...	...	828,281	12,605	.....	277,691

Jay County.

Richland.....	1,891	16	30,256	2,678	25	30	68,860	313	20	6,260
Knox	1,725	18	31,050	1,722	25	30	44,280	730	15	10,950
Penn	3,085	15	46,275	2,756	30	35	84,645	522	25	13,050
Jefferson	3,487	15	52,305	3,860	12	12	46,320	671	15	10,065
Green	1,387	14	19,418	3,917	15	25	64,345	911	20	18,220
Jackson.....	2,768	15	41,520	2,965	20	30	63,430	1,207	25	30,175
Pike	3,134	14	43,876	3,505	25	...	87,625	778	20	15,560
Wayne.....	2,384	*15	35,760	2,694	*23	*33	45,812	1,414	*20	28,280
Bear Creek	2,669	16	42,704	3,020	25	35	79,810	1,394	20	27,880
Madison.....	2,598	*15	38,870	2,619	*23	*33	63,747	1,229	*20	24,580
Noble	3,106	18	55,908	3,339	30	40	94,940	1,004	15	15,060
Wabash	2,001	15	30,015	2,018	30	50	64,300	925	25	23,125
Total.....	27,435	.....	467,957	35,093	...	...	808,114	10,173	.....	223,205

Jefferson County.

Madison.....	4,605	*8	36,840	4,146	30	38	129,116	1,029	16	16,464
Milton.....	2,889	12	34,668	2,582	20	33	56,437	233	15	3,495
Shelby	3,777	10	37,770	3,528	20	35	78,220	976	18	17,568
Lancaster	1,808	9	16,272	1,878	20	...	37,560	740	10	7,400
Republican.....	2,411	*11	26,521	2,157	*23	*36	53,615	899	*13	11,687
Graham.....	2,511	15	37,665	3,537	25	40	95,190	1,098	8	8,784
Saluda.....	3,589	11	39,479	2,774	20	40	63,400	1,004	10	10,040
Hanover	1,876	13	24,388	1,773	30	...	53,190	611	15	9,165
Monroe	1,977	9½	18,781	1,972	22	...	43,384	915	13½	12,352
Smyrna.....	1,746	*11	19,206	1,694	*23	*36	42,108	616	*13	8,008
Total.....	27,189	.....	291,590	26,011	...	...	652,220	8,121	.....	104,963

TABLE No. VIII.—Continued.

Jennings County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Bigger.....	1,378	*11	15,158	1,841	*18	*30	36,294	717	*14	10,038
Campbell.....	1,437	12	17,244	1,672	15	15	24,980	709	15	10,635
Columbia	2,090	12½	26,125	2,650	15	20	41,650	846	*14	11,844
Geneva.....	2,949	*11	32,439	2,986	*18	*30	58,860	612	*14	8,568
Marion.....	2,050	*11	22,550	2,423	*18	*30	47,760	440	*14	6,160
Montgomery.....	996	8½	8,466	1,033	25	30	26,555	330	8	2,640
Sand Creek.....	458	11	5,038	471	20	...	9,420	115	10	1,150
Spencer	3,532	10	35,320	3,901	15	40	39,000	1,126	20	22,520
Vernon.....	1,823	15	27,345	1,802	25	35	47,620	688	*14	9,632
Center.....	876	12½	10,950	913	18	...	16,434	387	20	7,740
Lovett.....	1,210	8	9,680	1,559	15	45	30,045	351	12	4,212
Total.....	18,799	.....	210,315	21,251	...	...	378,618	6,321	...	95,139

Johnson County.

Franklin.....	7,362	16	117,792	2,213	35	35	66,395	650	10	6,500
Nineveh.....	6,754	15	101,310	5,580	35	40	199,285	3,241	25	81,025
Blue River.....	3,602	*12	43,224	4,187	*31	*40	135,179	309	*27	8,343
Hensley	3,225	12	38,700	3,678	25	40	99,825	243	25	6,065
Clark	4,380	11	48,180	5,677	30	30	170,310	280	50	14,000
Pleasant.....	4,850	15	72,750	6,575	30	45	211,335	201	30	6,030
Union.....	4,161	17½	72,817	4,636	35	50	172,180	176	25	4,400
White River.....	6,399	*12	76,788	7,166	*31	*40	231,353	517	*27	13,959
Franklin City...	909	*12	10,908	911	*31	*40	29,411	125	*27	3,375
Edinburgh Town	.....	.....	.....	.....	...	...	.....	.....	.....	.....
Greenw'd Town.	.....	.....	.....	.....	...	...	.....	.....	.....	.....
Total.....	41,642	.....	582,469	40,633	...	...	1,315,283	5,743	.....	143,697

Knox County.

Vigo.....	5,744	*15	86,160	5,612	*33	*43	192,206	459	*17	7,803
Widner	5,566	16	89,056	2,769	30	...	83,070	400	*17	6,800
Buasseron.....	2,801	*15	42,015	3,157	*33	*43	108,121	292	*17	4,964
Washington.....	9,370	*15	140,550	5,580	*33	*43	191,110	573	*17	9,741
Palmyra.....	6,000	*15	90,000	2,653	*33	*43	90,859	240	*17	4,080
Vincennes.....	4,499	*15	67,485	2,439	*33	*43	83,967	195	*17	3,315
Harrison.....	10,400	15	156,000	8,801	30	40	276,600	689	20	13,780
Johnson.....	6,923	14	96,922	4,337	30	45	134,395	142	*17	2,414
Decker.....	3,325	15	49,875	2,980	40	50	123,450	146	20	2,920
Steen.....	3,136	17	53,312	2,438	35	40	87,070	141	12	1,692
Total.....	57,764	.....	871,875	40,766	...	...	1,370,848	3,277	... ..	57,509

TABLE No. VIII.—Continued.

Kosciusko County.

Townships.	Acres of Wheat, 1890.	Bushels per Acre.	Bushels of Wheat in 1890.	Acres of Corn, 1890.	Bushels per Acre.		Bushels of Corn in 1890.	Acres of Oats, 1890.	Bushels per Acre.	Bushels of Oats, 1890.
					Upland.	Bottom.				
Jackson.....	5,907	18	106,326	2,468	35	...	86,380	641	30	19,280
Monroe.....	4,457	18	80,228	2,213	45	20	91,640	600	25	17,250
Washington.....	2,824	15	42,360	2,120	40	30	81,770	500	25	14,000
Tippecanoe.....	2,920	15	43,800	2,151	50	40	104,480	592	25	14,800
Turkey Creek...	3,095	15	46,425	1,597	*39	*26	59,319	668	30	19,740
Van Buren.....	2,785	15	41,725	1,350	40	30	53,230	508	35	17,280
Plain.....	3,046	*18	48,736	1,749	*39	*26	64,574	523	*29	15,167
Wayne.....	3,786	14½	54,172	2,216	33	...	73,128	603	19	7,936
Clay.....	2,827	17	39,559	1,926	25	...	48,050	517	26	13,442
Lake.....	2,001	15	30,015	1,592	30	35	59,955	523	30	18,690
Seward.....	3,705	16	43,280	1,951	40	10	69,700	650	30	19,500
Franklin.....	2,792	20	55,840	2,680	50	...	13,400	371	50	18,550
Harrison.....	3,378	20	67,560	2,462	40	...	99,280	575	40	23,900
Prairie.....	4,290	*16	68,640	2,735	*39	*26	101,515	436	*29	12,644
Jefferson.....	1,914	*16	30,624	1,446	*39	*26	53,716	585	*29	16,965
Scott.....	1,559	*16	25,104	1,365	*39	*26	39,100	581	*29	15,899
Etna.....	1,878	15	28,170	1,143	40	20	42,180	281	30	8,430
Total.....	51,623	...	882,562	33,213	...	...	1,141,417	9,344	...	271,233

Lagrange County.

Van Buren.....	4,770	20	95,400	2,376	40	35	93,845	572	25	14,300
Newburg.....	4,187	18	75,006	2,163	40	...	86,520	919	50	45,950
Eden.....	3,625	18	65,250	1,685	60	20	91,500	709	36	24,815
Clear Spring.....	4,483	16	70,928	1,908	35	...	66,780	628	27	16,956
Clay.....	4,472	15½	68,316	2,948	40	25	85,105	609	27	16,443
Lima.....	4,182	*18	75,276	2,157	*40	*26	81,908	640	*31	19,840
Greenfield.....	9,533	18	171,594	2,408	40	...	98,320	632	20	12,640
Bloomfield.....	3,484	*18	62,712	1,675	*40	*26	63,654	463	*31	14,353
Johnson.....	4,159	20	83,180	2,168	30	25	64,495	1,095	40	43,800
Milford.....	4,234	20	84,680	2,070	50	...	103,500	340	30	10,200
Springfield.....	3,888	18	69,984	2,464	35	...	86,240	566	25	14,150
Total.....	50,947	...	923,336	23,322	...	...	919,427	7,173	...	238,446

Lake County.

North.....	...	...	...	665	*31	*25	19,890	648	*33	21,884
Ross.....	1,062	10	10,620	4,803	25	...	120,075	3,061	30	92,730
St. Johns.....	76	*17	1,292	2,947	*31	*25	88,831	2,383	*23	78,638
Center.....	144	18	2,592	2,630	40	...	105,200	1,404	43	60,372
West Creek.....	295	20	5,900	5,735	25	40	182,805	4,311	30	123,330
Cedar Creek.....	182	*17	3,094	4,448	*31	*25	134,078	1,820	*33	60,060
Eagle Creek.....	549	18	9,885	3,103	25	5	68,715	1,640	30	4,920
Winfield.....	394	*17	6,698	2,651	*31	*25	79,913	1,038	*33	34,254
Hobart.....	536	22	11,792	1,047	40	30	38,990	625	25	15,625
Hanover.....	96	*17	1,632	2,942	*31	*25	88,652	2,937	*33	96,021
Crown Point.....	157	*17	2,689	420	*31	*25	18,600	270	*33	8,910
Total.....	...	...	...	...	...	...	939,239	20,167	...	603,945

TABLE No. VIII.—Continued.

Laporte County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Hudson	1,735	18	31,230	922	30	40	28,970	346	30	10,380
Galena	2,357	25	58,925	1,865	35	...	65,275	758	25	18,950
Springfield	1,129	15	16,935	1,142	30	30	34,260	578	30	17,340
Michigan City .....	.....	...	.....	.....	...	...	.....	.....	...	.....
Michigan	327	15	4,905	354	30	...	10,620	237	30	7,110
Cool Spring	2,374	*17	40,358	1,580	*30	*30	47,400	630	*26	16,380
Center	3,643	21½	91,924	2,645	46	...	121,670	809	22	17,798
City of Laporte	633	*17	10,763	518	*30	*30	15,540	16	*26	416
Kankakee	3,704	*17	62,968	2,576	*30	*30	77,280	714	*26	18,564
Wills	3,590	*17	61,030	2,747	*30	*30	82,410	551	*26	14,326
Lincoln	1,344	*17	22,848	916	*30	*30	27,480	197	*26	5,122
Pleasant	2,077	18	37,386	1,555	30	40	48,790	522	25	13,050
Scipio	4,855	*17	82,535	3,069	*30	*30	92,070	1,009	*26	26,234
New Durham	4,574	*17	77,758	3,715	*30	*30	111,450	885	*26	23,010
Westfield, town	201	*17	3,417	542	*30	*30	16,260	167	26	4,342
Clinton	3,387	16	54,192	5,040	25	25	126,000	99	20	1,980
Noble	3,011	*17	51,182	3,175	*30	*30	195,250	600	26	15,600
Union	4,089	15	61,335	1,134	20	...	62,680	1,007	15	15,105
Johnson	623	16	9,963	525	35	40	18,750	161	20	3,220
Hanna	740	14	10,360	925	30	...	27,750	2,113	27	57,051
Cass	1,282	*17	21,791	2,812	*30	*30	84,360	1,796	26	46,696
Dewey	152	17	2,584	626	20	10	11,630	339	30	10,170
Total	45,827	.....	814,107	40,383	...	...	1,305,895	13,534	.....	382,754

Lawrence County.

Flinn	1,024	8	8,192	2,568	20	35	56,865	978.	10	9,780
Pleasant Run	955	8	7,640	2,479	15	25	40,725	1,268	20	25,360
Perry	616	11	6,776	1,515	15	30	25,965	785	25	19,625
Indian Creek	2,184	*10	21,840	2,233	*17	*36	44,022	1,768	*18	31,824
Spice Valley	1,630	*10	16,300	2,740	*17	*36	54,009	1,087	*18	19,566
Marion	5,120	*10	51,200	7,210	*17	*36	142,140	2,700	*18	48,600
Bono	1,192	*10	11,920	1,933	*17	*36	38,105	1,344	*18	24,192
Shawswick	1,942	12	23,304	3,592	24	50	99,494	1,345	20	26,900
Marshall	574	*10	5,740	1,150	*17	*36	22,838	559	*18	10,062
Guthrie	1,149	10	11,490	2,921	10	40	41,720	436	15	6,540
Total	16,391	.....	164,402	28,350	...	...	555,883	12,270	.....	222,449

TABLE No. VIII.—Continued.

Madison County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Anderson	3,880	16	62,080	4,577	20	35	101,124	296	20	5,920
Adams.....	3,454	20	69,080	3,150	20	...	63,000	396	20	7,920
Boone.....	2,168	*16	34,688	2,861	*26	*32	76,528	161	*24	3,864
Duck Creek.....	1,935	15	29,025	3,070	30	50	100,880	38	20	760
Fall Creek.....	5,099	18	91,782	5,446	38	35	204,614	635	25	15,875
Green.....	2,454	15	36,810	2,925	40	10	104,460	155	40	6,200
Jackson.....	2,982	15	44,730	3,514	30	40	111,440	247	20	4,940
Lafayette.....	3,250	18	58,500	3,566	20	...	71,320	208	20	4,160
Monroe.....	6,614	*16	105,824	5,979	*26	*32	160,578	346	*24	8,304
Pike Creek.....	5,153	*16	82,448	5,721	*26	*32	153,036	381	*24	9,144
Richland.....	3,558	*16	56,928	3,635	*26	*32	97,234	264	*24	6,336
Stony Creek.....	2,299	15	34,485	3,274	15	25	53,790	212	*23	4,876
Union.....	2,250	*16	36,000	2,545	*26	*32	68,348	212	*21	5,088
Van Buren.....	2,458	15	36,870	3,068	25	...	76,700	226	35	7,910
Total	47,554	.....	779,250	53,331	...	...	1,443,052	3,777	.....	91,297

Marion County.

Indianapolis.....	168	*14	2,352	337	*25	*31	8,677	51	*20	1,020
Center.....	832	*14	11,648	1,512	*25	*31	39,096	331	*20	6,620
Decatur.....	3,219	*14	45,066	3,650	*25	*31	94,376	517	*20	10,340
Franklin.....	5,148	12	61,776	5,541	20	35	122,685	722	25	18,050
Lawrence.....	4,777	16	76,432	6,183	25	15	145,745	1,075	15	16,125
Perry.....	4,677	13	60,801	6,559	25	20	158,290	839	20	16,780
Pike.....	4,267	14	59,738	4,742	28	42	142,254	604	24 $\frac{1}{2}$	14,606
Warren.....	5,239	17	89,063	5,923	25	35	146,535	638	25	15,950
Washington.....	6,012	15	90,180	7,508	28	40	223,100	1,065	12	12,780
Wayne.....	5,308	*14	74,312	11,537	*25	*31	298,313	1,185	*20	23,700
Total.....	39,649	....	571,363	53,493	....	....	1,379,071	7,028	....	185,971

Marshall County.

Union.....	3,405	20	68,100	2,940	37	...	108,780	668	40	26,720
Center.....	7,090	21	148,890	4,861	37	...	175,857	1,566	33	51,678
Green.....	3,136	16	50,176	2,278	35	...	79,730	615	25	15,375
Bourbon.....	4,693	*17	79,781	3,308	*35	*1	99,732	847	*28	23,716
Tippecanoe.....	3,812	15	57,180	2,785	35	10	87,525	415	30	12,450
German.....	1,964	15	29,460	1,255	27	...	33,885	752	25	18,800
North.....	3,523	*17	59,891	2,317	*35	*1	69,841	1,066	*28	29,848
Polk.....	3,953	*17	67,201	3,081	*35	*1	92,875	732	*28	20,496
West.....	3,025	20	61,500	2,265	40	...	90,600	620	24	14,880
Walnut.....	4,436	*17	74,412	2,887	*35	*1	87,037	678	*28	18,984
Plymouth City..	9	*17	153	18	*35	*1	597	9	*28	252
Total.....	39,649	...	696,744	27,545	...	...	930,459	7,968	...	233,199

TABLE No. VIII.—Continued.

Martin County.

Townships.	Acres of Wheat 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Baker.....	1,038	15	15,870	1,332	12	20	25,392	468	20	9,360
McCameron.....	2,012	12	24,144	1,892	28	...	52,976	737	32	23,584
Brown.....	466	12	5,592	389	20	25	8,055	107	20	2,140
Mitcheltree.....	1,818	12	20,816	2,718	25	30	69,890	746	8	5,968
Halbert.....	1,367	8	10,936	1,349	8	20	13,100	521	8	4,168
Center.....	1,808	15	27,120	1,718	30	40	53,990	394	25	9,850
Perry.....	2,939	16	47,024	2,186	25	40	59,330	576	20	11,520
Rutherford.....	2,729	10	27,290	2,533	20	35	56,090	914	20	18,280
Columbia.....	1,101	10	11,010	1,041	25	...	26,025	535	20	10,700
Lost River.....	4,229	10	42,290	2,167	15	25	27,870	905	20	18,100
Total.....	19,507	...	232,052	17,985	...	...	392,718	5,903	...	113,670

Miami County.

Peru.....	2,732	*16	43,712	2,299	*26	*35	65,357	235	*28	5,405
Jefferson.....	3,232	20	64,640	2,847	30	50	93,550	509	30	15,270
Perry.....	4,433	17	75,361	3,227	30	20	92,200	1,040	18	18,720
Union.....	6,111	16	97,776	1,444	15	18	22,278	429	20	8,580
Richland.....	5,920	17	59,940	4,539	30	35	139,410	616	25	15,400
Erie.....	2,883	15	43,245	1,976	30	40	61,800	260	25	6,500
Butler.....	3,791	*16	60,656	2,998	*26	*35	82,400	302	*23	6,946
Washington.....	3,050	15	45,750	3,190	25	30	82,025	511	20	10,220
Pope Creek.....	2,780	16	44,480	2,273	25	50	64,925	433	30	12,990
Deer Creek.....	2,891	17	49,147	2,755	25	40	74,770	253	30	7,590
Clay.....	2,641	15	39,615	2,512	30	...	75,360	162	25	4,050
Harrison.....	3,235	18	58,220	2,672	25	...	66,800	217	20	4,340
Jackson.....	3,065	18	55,170	2,791	20	...	56,820	165	15	2,475
Allen.....	2,180	18	39,240	1,911	30	30	57,330	502	25	12,550
Total.....	48,944	.....	756,952	37,434	...	...	1,034,025	5,634	.....	130,936

Montgomery County.

Coal Creek.....	4,160	15	62,400	5,453	30	...	163,590	510	*20	10,200
Wayne.....	5,051	20	101,020	4,435	28	30	125,446	633	30	18,990
Ripley.....	3,914	18	70,452	2,812	25	...	70,300	399	25	9,975
Brown.....	5,259	16	84,144	4,642	25	30	119,360	545	15	8,175
Scott.....	2,737	16	43,792	2,658	25	30	78,845	340	30	10,200
Union.....	13,129	20	262,580	12,240	15	...	183,600	1,997	25	49,975
Madison.....	3,777	18	67,986	5,606	20	35	124,135	580	15	8,700
Sugar Creek.....	4,654	15	69,810	5,008	*24	*31	125,070	218	20	4,360
Franklin.....	6,121	25	153,025	5,386	30	30	161,580	351	25	8,775
Walnut.....	4,083	17	69,411	4,388	20	...	87,760	364	16	5,824
Clark.....	3,161	16	50,576	4,423	30	...	132,690	363	15	5,445
Total.....	56,046	.....	1,035,196	57,046	...	...	1,871,876	6,300	.....	140,619

TABLE No. VIII.—Continued.

Monroe County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Bean Blossom....	2,810	15	34,650	3,267	20	30	70,010	686	10	6,960
Washington.....	834	12	10,008	1,614	15	25	26,510	711	25	17,775
Marion.....	123	12	2,196	266	20	35	5,690	121	10	1,210
Benton.....	701	8	5,608	1,586	20	20	31,720	708	25	17,700
Bloomington.....	998	*12	11,952	1,590	*22	*32	37,250	*759	*18	18,662
Richland.....	1,863	15	27,945	1,895	20	...	27,900	929	16	15,984
Van Buren.....	1,469	12	28	1,738	20	40	39,720	687	15	10,305
Perry.....	1,844	12	22,128	1,833	20	30	38,281	960	20	19,200
Salt Creek.....	570	*12	6,840	1,375	*22	*32	32,210	518	*18	9,324
Polk.....	651	10	6,510	1,269	25	30	32,850	805	18	14,490
Clear Creek.....	1,277	20	25,540	1,742	30	40	54,750	918	25	18,770
Indian Creek....	1,647	8	13,176	2,003	30	40	62,950	1,238	25	29,900
Total.....	14,245	....	165,781	19,678	...	...	459,841	9,117	—	170,270

Morgan County.

Washington.....	3,457	18	62,226	5,220	30	28	155,108	614	8	4,912
Jackson.....	3,447	14	34,258	3,111	30	25	64,440	493	20	9,860
Green.....	4,009	14	56,028	3,885	30	40	121,470	381	30	11,430
Harrison.....	992	*14	13,888	1,347	*24	*31	33,672	101	*20	2,020
Madison.....	3,280	13	42,380	3,880	30	35	118,565	240	30	7,200
Clay.....	2,627	*14	35,378	3,983	*24	*31	88,575	57	*20	1,140
Brown.....	2,589	*14	36,246	3,204	*24	*31	80,096	151	*20	3,020
Monroe.....	2,710	*14	37,940	2,778	*24	*31	69,324	404	*20	8,080
Adams.....	3,441	*14	48,174	4,421	*24	*31	110,545	359	*20	7,180
Gregg.....	1,869	*14	26,366	1,849	*24	*31	46,224	395	*20	7,900
Jefferson.....	2,088	*14	29,204	1,977	*24	*31	49,423	46	*20	920
Ray.....	1,845	14	25,830	1,493	30	33	45,489	129	*18	2,228
Baker.....	1,248	18	22,464	1,449	15	25	24,205	215	15	3,225
Ashland.....	1,671	12	20,052	1,773	18	...	31,914	325	20	6,500
Total.....	33,944	....	487,434	40,327	...	...	1,039,038	4,325	....	76,609

Newton County.

Iroquois.....	1,168	12	14,016	8,079	20	15	165,810	1,618	25	40,450
Jackson.....	1,161	*13	15,093	4,601	*25	*16	107,850	2,214	*29	64,206
Lake.....	188	*13	2,444	2,331	*25	*16	58,944	866	*29	25,114
Beaver.....	403	15	6,045	...	36	30	110,803	1,469	28	36,728
Washington.....	1,650	12	19,800	6,061	15	...	120,765	2,235	30	67,050
Jefferson.....	1,489	12	17,268	6,676	20	...	133,520	1,670	30	50,100
McClelland.....	26	*12	338	406	*25	*16	9,628	260	*29	7,540
Grant.....	671	12	8,052	9,804	30	5	299,070	2,062	25	51,550
Colfax.....	31	*13	403	253	*25	...	6,001	29	*29	841
Lincoln.....	50	10	730	599	30	...	27,970	306	30	9,240
Kentland, Town	.....	...	.....	.....	...	...	.....	.....	...	.....
Total.....	...	...	...	...	...	...	967,068	12,731	...	358,816

TABLE No. VIII.—Continued.

Noble County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Washington.....	2,547	16	40,752	11,368	30	40	357,280	889	12	4,668
Sparta.....	4,928	*16	78,848	2,402	*30	*31	72,403	841	*25	16,025
Perry.....	4,904	*16	78,464	2,506	*30	*31	75,528	371	*25	9,275
Elkhart.....	3,929	*16	62,864	2,125	*30	*31	58,053	748	*25	18,700
York.....	3,078	15	46,170	1,635	*30	*31	49,283	552	35	19,320
Noble.....	3,197	15	47,955	1,743	25	...	43,575	496	25	12,400
Green.....	3,867	18	69,606	2,423	28	...	67,844	974	25	24,350
Jefferson.....	3,237	*16	51,792	2,344	*30	*31	70,655	825	*25	20,625
Orange.....	4,419	15	66,285	1,802	30	...	54,060	752	25	18,800
Wayne.....	4,121	20	82,420	2,171	40	20	80,640	831	25	20,775
Allen.....	2,673	17	45,441	1,829	28	25	50,429	1,147	26	29,822
Swan.....	2,652	18	47,736	1,596	35	40	53,495	741	30	22,230
Ligonier.....	.....	...	.....	.....	...	...	.....	.....	...	.....
Kendallville.....	.....	...	.....	.....	...	...	.....	.....	...	.....
Total.....	43,552	.....	718,333	23,944	...	...	1,033,245	8,467	...	216,990

Ohio County.

Randolph.....	4,396	13¾	61,922	3,759	50	80	204,060	394	*9	3,546
Union.....	1,283	9	11,547	1,415	20	45	58,625	97	18	1,746
Cass.....	1,801	6	10,806	1,295	20	50	31,510	246	6	1,476
Pike.....	1,870	4	7,480	2,135	15	35	24,210	289	3	867
Rising Sun C'y..	75	.....	.....	.....	...	...	.....	.....	.....	.....
Total.....	9,425	.....	91,755	8,604	...	...	318,405	1,026	.....	7,735

Orange County.

Paoli.....	3,307	*10	33,070	4,378	*22	*33	103,191	1,751	*16	28,016
Northeast.....	945	12	11,340	807	30	...	24,210	931	25	23,275
Orleans.....	2,335	12	28,020	3,558	25	40	96,570	2,506	15	37,590
Orangeville.....	1,267	10½	19,000	1,142	22	27	25,501	430	12	5,160
Northwest.....	904	7	5,628	1,394	25	50	39,825	588	20	11,760
French Lick.....	1,461	7	10,227	2,144	10	20	24,500	778	15	11,670
Jackson.....	1,430	20	28,600	2,424	20	36	54,016	885	20	17,700
Greenfield.....	1,772	10	17,720	3,224	20	25	66,780	1,486	15	22,290
Southeast.....	1,996	9	17,964	3,564	25	35	94,190	1,715	10	17,150
Stamper's Creek	2,204	8	17,632	*2,570	*22	*33	60,577	*1,230	15	18,450
Total.....	17,621	.....	189,201	27,665	...	...	589,360	13,489	.....	193,061

TABLE No. VIII.—Continued.

Owen County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Wayne.....	2,505	*12	30,060	2,321	*21	*38	54,389	187	*12	2,561
Montgomery.....	1,494	19	17,928	1,028	20	40	23,620	273	20	5,460
Washington.....	2,225	10	22,250	2,070	20	25	44,875	710	20	14,200
Morgan.....	1,132	*12	13,584	921	*21	*38	22,380	761	*12	9,893
Jackson.....	1,563	15	23,430	1,044	20	40	23,860	665	8	5,320
Harrison.....	910	12	10,920	1,231	20	...	24,620	223	*13	2,860
Clay.....	1,573	14	22,022	1,681	25	40	45,625	786	10	7,860
Franklin.....	2,187	12	26,004	2,003	12	35	45,903	637	8	1,911
Jefferson.....	3,377	15	50,655	2,776	30	60	85,130	1,344	20	26,880
Marion.....	3,167	12	38,004	2,522	15	...	37,830	1,260	8	10,080
Lafayette.....	1,348	12	16,176	1,087	20	30	23,290	740	15	11,100
Jennings.....	1,067	10	10,670	806	20	30	18,400	249	10	2,990
Taylor.....	1,148	12	13,776	1,619	30	...	45,570	286	20	5,320
Total.....	23,665	...	296,379	22,108	—	...	505,892	8,161	.....	106,474

Parke County.

Adams.....	5,154	*16	82,464	4,414	*28	*43	123,042	590	*27	15,920
Washington.....	3,509	17	59,653	2,808	35	45	105,570	796	25	19,875
Sugar Creek.....	1,707	17	29,019	1,500	30	50	49,280	365	25	9,150
Liberty.....	4,341	18	78,138	4,046	25	40	109,820	623	20	12,460
Reserve.....	3,863	17	66,011	2,232	35	...	102,620	172	...	4,300
Wabash.....	3,613	18	65,034	3,858	30	40	121,320	191	20	3,820
Florida.....	4,245	15	63,675	8,705	23	40	191,696	837	15	12,555
Raccoon.....	3,901	15	58,515	3,401	25	45	94,725	204	15	3,060
Jackson.....	1,885	13½	25,447	2,347	20	40	53,640	412	25	10,310
Union.....	3,018	16	48,288	2,894	25	40	78,145	297	30	8,910
Greens.....	4,072	12	48,864	3,000	35	50	111,420	184	75	13,800
Penn.....	2,335	16	42,030	2,565	25	40	69,615	565	25	14,185
Howard.....	1,666	*16	26,656	1,212	*28	*43	62,116	224	*27	6,048
Total.....	45,829	...	723,794	40,772	—	...	...	...	...	...

Perry County.

Troy.....	1,728	16	29,065	1,646	10	20	18,810	604	6	3,624
Troy, Town of.....	...	...	...	15	*16	*26	260	...	...	...
Tell City.....	214	*9	1,926	241	*16	*26	6,266	44	*14	616
Anderson.....	1,497	*9	13,473	1,293	*16	*26	22,528	...	*14	6,580
Clark.....	2,680	8	21,440	2,221	25	25	80,525	1,195	15	17,925
Tobin.....	2,971	10	29,710	2,779	20	35	61,535	907	18	17,846
Union.....	1,562	8	12,496	1,802	10	20	28,560	373	6	2,238
Oil.....	13,350	8	146,800	2,403	25	30	61,790	777	25	19,425
Leopold.....	1,211	8	9,688	850	10	20	10,920	273	15	9,095
Total.....	30,208	...	235,533	14,410	...	...	286,214	4,733	.....	77,549

TABLE No. VIII.—Continued.

Pike County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn, in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Jefferson.....	5,628	14	78,792	5,605	15	25	92,075	1,010	12	12,120
Washington.....	6,144	14	86,016	4,194	25	50	144,825	401	20	8,020
Madison.....	2,933	15	43,995	2,565	25	40	69,615	165	30	4,950
Clay.....	2,977	18	53,586	2,319	40	60	99,380	232	*19	4,409
Patoka.....	3,623	12	43,476	2,933	25	45	56,705	418	40	16,720
Monroe.....	4,877	8	35,816	4,185	20	20	83,700	969	15	13,535
Logan.....	2,079	12	24,948	1,699	20	40	39,120	783	25	18,325
Lockhart.....	3,981	8	31,848	3,540	20	...	70,800	1,025	10	10,250
Marion.....	2,533	*12	30,396	2,674	*22	*40	65,704	536	*21	11,256
Total.....	34,775	....	438,873	29,714	...	...	721,924	5,489	.....	99,584

Porter County.

Center.....	10,275	12	123,300	11,983	35	15	385,165	1,290	25	32,250
Union.....	1,247	*16	19,952	2,027	*29	*22	57,012	949	*30	28,470
Washington.....	1,889	*16	30,224	2,796	*29	*22	78,291	893	*30	26,790
Jackson.....	2,032	15	30,480	1,625	30	...	48,750	727	25	18,175
Liberty.....	1,736	18	31,248	1,877	30	...	56,310	870	35	30,450
Portage.....	840	15	12,600	1,674	20	30	86,010	916	30	27,480
Westchester.....	1,697	25	42,425	1,460	25	25	36,500	676	40	27,040
Pleasant.....	864	18	15,552	2,830	30	30	84,900	1,348	30	40,440
Porter.....	459	10	4,590	1,531	25	...	38,275	807	25	20,175
Boone.....	703	18	12,654	2,740	30	10	74,380	1,212	30	36,360
Morgan.....	2,382	17	40,494	4,485	40	...	179,400	2,798	35	97,930
Pine.....	891	*16	14,256	788	*29	*22	22,068	391	*30	11,730
Total.....	25,015	...	377,775	35,816	...	...	1,097,061	12,875	...	397,890

Posey County.

Black.....	19,718	15	295,695	12,450	30	40	401,270	9,763	25	244,075
Lynn.....	6,482	14	90,748	4,702	25	20	114,095	340	*26	8,840
Point.....	1,310	13	17,030	3,548	25	40	96,805	110	30	3,300
Harmony.....	4,859	*15	72,885	3,021	*29	*38	192,517	266	*24	7,384
Robb.....	6,000	18	108,000	3,497	30	40	110,900	25	20	500
Marris.....	8,465	*15	126,975	4,574	*29	*38	188,523	401	*24	9,624
Robinson.....	6,308	*15	94,620	2,028	*29	*38	51,431	867	*24	8,808
Smith.....	3,427	*15	51,405	1,919	*29	*38	58,117	198	*24	4,752
Bethel.....	2,146	*15	53,650	2,642	*29	*38	80,011	67	*24	1,608
Center.....	4,049	15	60,735	2,488	35	50	92,405	202	20	4,040
Total.....	62,759	...	971,743	40,869	...	...	1,335,569	11,739	...	292,981

TABLE No. VIII.—Continued.

Pulaski County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Monroe	9,524	18	167,432	2,134	30	25	54,495	64	25	1,600
Beaver.....	817	*14	11,438	4,036	*27	*25	108,076	540	*17	9,180
Tippecanoe.....	1,698	*14	23,744	1,201	*27	*25	32,117	320	*17	5,440
Harrison.....	2,246	15	33,690	1,409	30	40	44,280	897	20	17,940
White Post.....	557	10	5,570	827	15	10	11,815	420	25	10,500
VanBuren.....	9,576	*14	134,064	2,134	*27	*25	56,284	921	*17	15,657
Indian Creek.....	632	18	11,376	943	25	20	22,905	95	15	1,425
Salem.....	580	12	6,960	3,867	25	...	83,175	1,142	20	22,840
Cass.....	506	10	5,060	1,158	40	30	44,670	388	20	7,760
Jefferson.....	75	10	750	134	30	5	3,535	46	10	460
Rich Grove.....	335	20	6,700	843	40	50	34,920	158	10	1,580
Franklin.....	372	12	4,464	613	10	...	6,130	143	10	1,430
Total.....	26,916	...	411,248	17,120	...	...	502,402	5,134	...	95,812

Putnam County.

Jackson.....	2,991	12	35,892	3,756	28	45	114,280	471	15	7,065
Franklin.....	2,159	14	30,226	2,864	25	30	73,645	270	25	6,750
Russel.....	2,405	14	33,670	2,772	25	35	73,260	143	30	4,290
Clinton	2,429	12½	30,362	2,376	30	40	74,670	42	25	1,050
Monroe	2,466	15	36,990	3,187	30	...	95,610	535	15	8,025
Floyd	2,924	12	34,088	4,060	20	40	92,800	453	30	13,590
Madison.....	1,833	12	21,996	3,047	25	35	80,525	709	15	10,635
Greencastle	1,082	15	16,230	1,377	30	45	44,250	321	45	14,445
Marion	3,065	10	30,650	3,620	20	25	74,985	391	18	7,038
Washington.....	1,492	*13	19,396	2,447	*25	*36	66,014	448	*22	9,856
Cloverdale.....	3,012	13	39,156	3,698	30	...	111,840	948	15	14,220
Warren	2,827	14	39,578	3,345	20	40	76,460	402	20	8,040
Jefferson	2,638	15	39,570	2,819	30	...	84,570	407	15	6,105
Mill Creek.....	1,089	18	14,157	1,815	20	25	37,595	164	30	4,920
Total	32,412	...	431,961	41,188	...	...	1,100,504	5,710	...	116,029

Randolph County.

White River.....	5,271	*14	73,794	6,965	*24	*30	173,380	1,906	*22	41,932
Washington.....	3,846	12	46,152	5,743	20	40	131,260	1,681	20	33,620
Green's Fork.....	4,170	16	66,720	5,538	30	32	167,762	1,376	20	27,520
Stony Creek.....	2,872	20	57,440	3,663	30	20	104,660	407	15	6,105
Nettle Creek.....	4,440	*14	62,160	4,534	*24	*30	112,704	457	*32	10,054
West River.....	3,851	15	57,765	5,152	25	40	139,840	1,246	40	49,840
Green	2,138	13	27,794	2,866	18	18	51,588	600	20	12,000
Ward	4,018	12	48,216	4,600	25	20	109,285	890	20	17,800
Jackson.....	3,221	*14	45,094	3,534	*24	*30	93,816	1,076	*22	23,672
Wayne.....	4,253	15	63,795	5,027	30	40	158,000	1,271	35	44,435
Monroe.....	2,661	15	39,915	3,774	20	...	75,480	304	20	6,080
Franklin.....	2,318	*14	32,452	2,777	*24	*30	69,024	325	*22	7,150
Total.....	43,059	.....	621,297	54,073	...	...	1,386,829	11,539	.....	280,258

TABLE No. VIII.—Continued.

Ripley County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Johnson.....	2,951	10	29,510	4,263	15	35	70,125	1,329	15	19,935
Washington.....	1,834	*11	20,174	2,034	*20	*35	45,030	1,116	*18	20,088
Brown.....	3,031	9	27,279	3,766	25	35	99,530	1,464	30	43,920
Franklin.....	2,845	15	42,675	2,120	25	50	60,575	1,258	25	31,450
Shelby.....	2,850	6	17,100	3,055	20	45	72,000	1,774	8	14,192
Otter Creek	2,476	10	24,760	2,539	25	50	72,525	1,131	*19	21,498
Jackson	2,360	10	23,600	2,069	7	15	16,843	1,104	10	11,040
Adams.....	4,560	14	63,840	2,742	30	...	82,260	1,545	15	22,175
Laughery	1,937	*11	21,307	1,403	*20	*35	31,060	1,013	*18	18,234
Delaware.....	2,322	*11	25,542	2,063	*20	*35	45,670	1,175	*18	21,150
Center.....	1,694	16	27,104	1,765	18	20	32,274	837	25	14,555
Total.....	28,860	.....	322,891	27,819	...	...	627,892	13,746	.....	236,237

Rush County.

Ripley.....	4,659	22	102,498	4,923	30	40	154,720	954	30	28,620
Posey	4,000	16	64,000	5,440	30	20	155,430	362	25	9,050
Walker	4,210	*17	71,570	4,614	*41	*35	185,214	202	*25	5,050
Orange	4,812	*17	81,804	5,339	*41	*35	214,327	261	*25	6,525
Anderson.....	5,572	*17	94,724	5,187	*41	*35	208,221	452	*25	11,300
Rushville.....	5,291	15	79,365	6,972	50	60	358,560	294	20	5,880
Jackson.....	2,775	18	49,950	3,828	60	...	199,680	100	25	2,500
Center.....	3,992	18	71,856	5,288	40	20	196,420	292	30	8,760
Washington.....	3,657	*17	62,169	5,687	*41	*35	228,295	606	*25	15,125
Union.....	3,227	*17	54,859	3,325	*41	*35	133,476	1,524	*25	38,100
Noble.....	3,983	17	69,102	4,403	40	...	176,020	393	25	9,950
Richland.....	3,752	14	52,528	4,139	40	...	165,560	534	25	13,350
Total.....	49,980	...	854,425	58,345	...	...	2,375,923	5,978	...	154,210

Scott County.

Jennings.....	2,349	10	23,490	2,715	20	20	54,300	725	12	8,700
Johnson	2,103	10	21,030	2,549	15	35	45,515	724	10	7,240
Lexington	3,445	*10	34,450	4,671	*21	*26	101,426	1,354	*14	18,956
Finley.....	1,552	8	12,416	2,468	20	...	49,560	1,052	20	21,040
Vienna.....	1,222	13	15,886	2,246	30	25	65,775	535	*14	7,490
Total.....	10,671	...	107,272	14,649	...	...	316,376	4,390	...	63,426

TABLE No. VIII.—Continued.

Shelby County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Jackson.....	4,097	22	90,134	2,629	35	45	95,765	62	30	1,860
Washington.....	4,290	12	51,480	5,606	25	40	152,175	417	20	8,340
Noble	6,310	*16	100,960	4,625	*33	*40	157,245	251	*21	5,271
Liberty	8,429	16	54,864	3,311	40	55	139,535	856	25	8,900
Addison.....	5,315	15 ² / ₃	83,777	7,697	35	45	280,385	653	14 ¹ / ₂	9,577
Hendricks.....	2,572	*16	41,152	6,198	*33	*40	209,962	610	*21	12,810
Sugar Creek.....	8,929	*16	62,864	4,007	*33	*40	136,235	*374	*21	7,855
Brandywine.....	3,458	16	55,328	3,498	30	30	104,940	302	*21	6,342
Marion.....	2,710	18	48,780	3,570	35	50	132,600	784	20	15,680
Union.....	4,478	18 ² / ₃	86,199	4,456	38	37	168,692	211	20	4,220
Hanover.....	3,270	*16	52,320	4,056	*33	*40	137,397	554	*21	11,634
VanBuren.....	3,627	14	50,778	3,682	25	25	92,050	238	*21	4,999
Moral.....	4,519	*16	72,309	4,754	*33	*40	161,642	306	*21	6,426
Shelbyville City.	815	*16	13,040	189	*33	*40	6,398	119	*21	2,499
Total.....	52,819	..	863,385	58,278	...	...	1,975,011	5,240	...	106,312

Spencer County.

Luce.....	3,301	* 8	30,408	4,363	17	30	82,270	791	*18	14,298
Ohio.....	5,800	10	53,000	6,827	35	50	251,749	1,067	20	21,840
Rockport.....	*3,777	* 8	30,216	*3,932	*22	*25	87,977	*1,030	*18	18,540
Hammond.....	4,295	* 8	34,360	3,961	*22	*25	88,627	631	*18	11,858
Grandview.....	*3,777	* 8	30,216	*3,932	*22	*25	87,977	*1,080	*18	18,540
Huff.....	2,701	* 6	16,206	*1,151	15	22	50,016	699	10	6,990
Harrison.....	3,290	* 8	26,320	2,353	*22	*25	52,648	2,094	*18	37,692
Carter.....	3,769	* 8	30,152	5,621	*22	*25	125,534	1,862	*18	33,512
Jackson.....	1,669	7	11,683	1,790	12	10	19,970	391	20	7,820
Grass	5,898	9	48,582	3,922	40	30	151,980	825	20	16,500
Olay.....	3,777	7	26,439	3,406	16	12	52,552	921	20	18,420
Total.....	41,554	.....	337,532	43,258	...	...	1,061,291	11,341	.....	205,010

Starke County.

North Bend.....	702	17	11,934	754	40	25	28,540	214	30	6,420
Washington.....	640	*15	9,600	38	*32	*37	1,251	*192	*31	5,952
Oregon.....	1,018	*15	15,195	1,144	*32	*37	37,423	259	*31	8,029
California.....	301	*15	4,515	618	*32	*37	20,216	126	*31	3,906
Center.....	568	20	11,360	710	40	60	30,420	376	50	18,800
Wayne.....	453	12	5,436	741	25	40	20,115	201	25	5,025
Railroad.....	352	15	5,280	537	30	25	15,780	328	25	5,700
Davis	284	15	4,260	432	25	35	11,420	98	20	1,960
Jackson.....	147	15	2,205	279	35	...	9,765	34	40	1,360
Total.....	4,460	.....	69,785	5,253	...	...	174,881	1,728	.....	57,152

TABLE No. VIII.—Continued.

Steuben County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Mill Grove.....	3,115	15 $\frac{1}{2}$	46,725	2,372	33	...	78,276	222	25	5,550
Jamestown.....	2,986	15	31,290	1,228	40	25	46,497	278	30	8,340
Fremont.....	3,421	20	68,420	1,151	15	...	17,265	147	40	17,880
Clear Lake.....	967	20	19,340	522	40	45	21,250	332	30	9,960
York.....	1,543	17	26,231	1,273	32	30	39,736	571	29	16,559
Scott.....	2,580	18	48,440	1,897	30	...	56,910	626	28	17,528
Pleasant.....	3,112	17	58,004	1,963	32	30	62,256	672	29	19,488
Jackson.....	4,517	15	67,755	2,361	40	...	94,460	506	25	12,550
Salem.....	3,713	18	66,834	2,076	20	...	41,520	587	25	14,675
Steuben.....	3,795	18	68,310	2,128	37	...	78,736	784	28	21,952
Otsego.....	2,963	19	56,587	2,196	31	...	68,076	848	30	25,440
Richland.....	1,477	21 $\frac{1}{2}$	31,755	1,032	40	20	38,340	569	37	21,053
Total.....	33,589	...	589,691	20,179	...	...	643,220	6,442	.....	190,975

St. Joseph County.

Olive.....	4,812	22	57,744	1,466	50	...	73,300	988	30	29,640
Warren.....	3,059	15	45,885	1,617	35	...	56,595	301	39	9,030
German.....	3,409	21 $\frac{1}{2}$	73,293	1,910	47	...	89,770	328	36	11,808
Clay.....	2,926	22	64,372	1,509	45	...	67,905	319	40	12,760
Harris.....	2,490	21	52,290	1,386	33	15	42,171	361	27	9,747
Penn.....	6,647	22	122,476	3,945	40	...	157,800	1,570	37 $\frac{1}{2}$	58,875
Portage.....	1,790	18 $\frac{1}{2}$	34,008	1,012	35	50	37,620	296	35	10,360
Conter.....	2,028	22 $\frac{1}{2}$	45,630	1,222	45	...	54,990	364	35	12,740
Greene.....	3,406	20	68,120	1,904	35	...	66,610	389	35	13,615
Union.....	3,839	17	65,263	2,449	32	...	78,368	1,205	25	30,125
Liberty.....	4,389	19	83,391	2,814	39	45	112,158	1,097	32	35,104
Madison.....	3,542	14	49,588	8,778	40	25	352,310	1,318	17	22,406
Lincoln.....	2,268	15	34,020	1,205	30	...	36,150	277	40	11,080
Mishawaka T'n.	3,011	19	57,209	315	39	45	12,555	117	32	3,744
Walkerton T'n.	118	19	2,242	66	39	45	2,622	.....	...	.....
South Bend C'y.	190	19	3,610	45	39	45	1,791	.....	...	.....
Total.....	48,024	...	919,141	31,643	...	...	1,222,748	8,930	...	271,034

Sullivan County.

Jackson.....	5,748	13	74,724	3,455	26	31	92,399	1,131	18	20,412
Curry.....	6,115	15	91,725	2,695	30	...	80,850	604	25	15,100
Fair Bank.....	5,898	13	76,674	3,954	26	31	105,629	623	18	11,214
Turman.....	6,926	10	69,260	5,185	30	...	155,550	925	20	18,500
Hamilton.....	8,884	15	133,260	5,113	20	25	108,770	736	15	11,040
Cass.....	4,979	12	59,664	3,103	20	30	66,490	835	15	12,525
Jefferson.....	6,119	16	97,904	3,367	30	40	105,850	672	15	10,080
Haddon.....	9,414	13	122,382	5,716	26	31	152,606	951	18	17,118
Gill.....	7,694	13	100,022	4,018	26	31	107,338	231	18	5,058
Total.....	61,777	...	825,615	36,696	...	...	975,572	6,762	...	121,047

TABLE No. VIII.—Continued.

Switzerland County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom				
Jefferson.....	2,630	7	18,473	2,320	25	45	64,620	872	18	15,680
York.....	3,787	12	45,444	2,185	8	...	17,480	851	18	9,918
Posey.....	1,152	15	62,280	1,265	40	60	54,200	352	40	14,080
Cotton.....	2,670	12	32,040	2,132	25	41	61,204	377	26	9,802
Pleasant.....	2,364	20	47,280	2,275	35	60	87,750	751	40	30,040
Craig.....	3,405	7	23,835	2,534	20	40	67,040	403	15	6,045
Total.....	19,017	...	229,352	13,111	...	...	352,291	3,306	...	85,565

Tippecanoe County.

Lauramie.....	6,835	17	116,161	6,058	27	14	152,421	819	14	11,466
Randolph.....	2,597	17	44,149	6,059	27	14	152,421	775	14	10,850
Jackson.....	6,126	18	110,268	9,212	30	10	250,040	856	12	10,272
Wayne.....	4,426	15	66,390	7,218	30	...	216,540	1,176	20	23,520
Union.....	3,111	20	62,220	4,817	30	...	144,510	825	20	16,500
Wea.....	5,776	17	98,192	2,592	27	14	65,171	955	14	13,370
Sheffield.....	5,502	18	99,036	5,519	18	18	99,342	957	10	9,570
Perry.....	4,814	17	81,838	4,199	27	14	105,886	961	14	13,454
Washington.....	3,356	17	57,052	3,038	27	14	76,382	497	14	6,958
Tippecanoe.....	1,827	17	82,059	5,913	27	14	148,669	974	14	13,636
Wabash.....	2,860	17	48,620	5,696	27	14	143,223	1,140	14	15,960
Shelby.....	3,128	16	51,148	9,059	30	...	272,770	1,820	10	18,200
Fairfield.....	2,394	17	40,698	2,994	27	14	75,287	489	14	6,856
Lafayette City..	187	17	8,279	1,024	27	14	25,750	100	14	1,400
Total.....	56,237	...	966,111	73,398	...	...	1,928,415	12,344	.....	172,012

Tipton County.

Madison.....	3,626	12	43,512	4,292	20	...	85,840	236	20	4,720
Cicero.....	4,329	15	64,935	5,413	27	35	152,335	713	15	10,695
Jefferson.....	2,473	15	37,095	4,115	27	35	116,651	292	15	4,380
Prairie.....	3,115	15	46,725	4,081	27	35	114,824	175	15	2,625
Liberty.....	3,263	15	48,945	3,949	27	35	116,545	187	15	2,805
Wildcat.....	4,056	18	73,008	4,367	35	35	152,845	229	10	2,290
Total.....	20,862	.....	314,220	26,216	...	...	741,040	1,832	.....	27,515

TABLE No. VIII.—Continued.

Union County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Center	3,377	*17	57,409	4,211	*35	*50	156,400	715	*25	17,875
Union	3,663	*17	63,271	4,315	*35	*50	160,265	882	*25	22,050
Harmony	2,069	15	31,035	2,314	40	50	93,860	341	20	6,820
Liberty	2,345	18	63,934	2,689	30	50	83,350	335	25	8,375
Brownsville.....	2,704	*17	45,968	3,220	*35	50	119,600	377	*25	9,425
Harrison.....	3,620	18	65,160	4,376	35	...	153,148	631	30	15,930
Total.....	17,778	.....	327,777	21,125	...	...	772,623	3,181	.....	83,475

Vanderburgh County.

Pigeon.....	355	15	5,325	707	...	30	21,210	185	*18	3,330
Knight.....	2,028	15	30,420	3,519	20	50	85,440	223	25	5,575
Scott.....	6,105	10	61,050	2,739	25	45	76,295	491	25	12,285
Armstrong.....	6,310	14	88,340	2,105	30	40	39,150	259	20	5,180
Perry	3,588	13	46,644	1,442	20	35	31,930	198	10	1,980
Union.....	2,017	11½	22,500	6,523	*23	*35	159,809	197	10	1,970
Center.....	4,062	10	40,620	2,329	20	20	46,580	97	20	1,940
German	5,413	13	69,369	1,528	25	30	39,290	284	15	4,260
Total.....	29,878	...	364,268	20,892	...	...	499,704	1,934	...	36,500

Vermillion County.

Highland.....	56,656	20	1,133,120	55,059	25	...	1,376,475	800	*15	12,000
Eugene.....	5,942	18	106,056	4,400	30	30	182,000	427	20	8,540
Vermillion.....	5,854	18	105,372	6,952	35	45	253,600	937	20	18,740
Helt.....	10,949	13	197,082	8,247	40	...	829,860	1,369	25	33,225
Clinton	7,992	*18	143,856	5,200	*32	*37	170,115	364	*20	7,280
Total.....	87,393	...	1,685,486	79,858	...	...	2,262,070	3,897	...	79,785

TABLE No. VIII.—Continued.

Vigo County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
City.....	68	*16	256	217	27	30	5,940	3	*24	72
Harrison.....	*3,087	*16	*49,392	*3,471	*30	*25	*101,650	*284	*40	*11,360
Honey Creek.....	6,271	17	106,607	4,837	20	40	110,560	486	25	12,150
Prairieton.....	3,087	16	49,392	3,471	30	25	101,650	284	40	11,360
Prairie Creek....	4,094	*16	65,504	3,202	27	30	87,654	140	*24	3,360
Linton.....	6,231	*16	99,696	8,735	27	30	102,444	574	*24	13,776
Pierson.....	6,165	14	86,310	3,634	25	...	90,850	1,205	20	24,100
Riley.....	*4,577	15	68,655	*3,229	25	...	80,725	*560	30	16,800
Lost Creek.....	2,633	*16	42,128	1,073	27	30	29,430	678	*24	16,272
Nevins.....	3,745	16	59,920	3,923	30	25	94,390	605	18	10,890
Otter Creek.....	4,472	16	71,552	3,705	35	...	129,675	538	18	9,684
Fayette.....	*4,577	19	86,963	*3,929	25	...	80,725	*560	10	11,200
Sugar Creek.....	4,892	*16	78,272	5,193	27	30	142,158	531	*24	12,744
Total.....	53,897	...	864,647	42,239	...	...	1,157,851	5,328	...	163,768

Wabash County.

Chester.....	7,509	*18	135,136	6,404	*29	*40	194,516	1,406	*25	35,150
Lagro.....	8,917	20	178,340	8,530	30	45	274,170	1,530	25	38,250
Liberty.....	6,007	16	96,112	5,523	30	40	173,590	810	15	12,150
Noble.....	8,364	20	167,280	8,385	30	40	263,530	939	35	32,865
Pleasant.....	5,104	18	91,872	4,333	35	45	157,845	1,460	20	29,200
Paw Paw.....	4,638	*18	83,484	3,892	*29	*40	118,984	615	*25	15,375
Waltz.....	5,244	16	83,904	6,489	20	30	126,950	325	30	9,750
Total.....	45,783	.....	836,128	43,556	...	...	1,319,585	7,085	.....	172,740

Warren County.

Washington.....	2,018	*18	36,324	1,995	*29	*25	56,907	399	*16	6,384
Pine.....	1,386	*18	24,948	3,333	*29	*25	94,753	747	*16	11,952
Mound.....	1,251	17	21,267	2,084	30	...	62,520	622	20	10,440
Stauben.....	2,258	20	45,160	4,919	30	10	133,530	1,348	20	26,960
Pike.....	1,687	15	25,305	1,978	25	...	49,450	398	20	7,960
Medina.....	1,500	19	28,500	3,500	35	...	122,500	1,500	*16	24,000
Warren.....	2,325	20	46,500	2,350	25	5	52,050	700	5	3,700
Liberty.....	4,233	18	76,194	5,330	35	...	186,550	1,534	10	15,340
Adams.....	389	25	9,725	1,237	30	10	33,590	265	20	5,300
Jordan.....	984	12	11,808	4,731	25	...	118,275	1,377	20	27,540
Prairie.....	1,284	18	23,212	9,964	25	...	239,100	2,073	20	41,460
Kent.....	1,018	18	18,324	1,351	35	50	50,180	310	10	3,100
Total.....	20,333	.....	367,267	42,772	...	...	1,199,405	11,173	.....	184,136

TABLE No. VIII.—Continued.

Warrick County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Anderson	1,773	*9	15,957	1,974	*25	*27	49,914	356	*18	6,408
Boone	8,411	12	10,932	7,364	35	35	257,740	1,485	20	29,700
Campbell	4,423	10	44,230	2,833	25	30	82,845	724	20	14,180
Greer	3,017	8	24,136	1,734	25	40	48,040	243	15	3,645
Hart	4,505	9	40,545	3,180	25	...	79,500	812	20	16,240
Lane	1,980	*9	17,820	2,465	*25	*27	62,329	431	*18	7,758
Ohio	4,161	*9	37,449	3,631	*25	*27	91,811	644	*18	11,592
Owen	1,134	10	11,340	1,579	20	15	40,455	189	25	4,725
Pigeon	3,595	*9	82,355	2,365	*25	*27	59,801	266	*18	4,788
Skelton	2,460	8	19,680	3,450	20	15	66,535	644	10	6,440
Total	35,459	.....	254,444	30,575	...	...	838,970	5,794	.....	105,576

Washington County.

Gibson	1,867	9	16,830	2,930	18	20	53,576	1,648	10	16,480
Monroe	1,267	*11½	14,443	2,551	40	35	100,620	967	30	29,010
Jefferson	1,610	15	24,150	3,691	20	40	82,080	1,445	10	14,350
Brown	1,083	*12	12,996	2,685	*22	*36	64,432	1,458	*15	21,870
Vernon	1,764	9	15,876	3,115	18	...	56,070	1,468	10	14,680
Washington	2,794	*12	33,528	4,656	*22	*36	111,742	2,520	*15	37,800
Franklin	1,648	*12	19,776	2,842	*22	*26	68,198	2,037	*15	30,555
Polk	1,088	12	12,975	1,897	15	35	33,875	1,001	25	25,025
Pierce	1,477	15	22,155	2,230	25	40	60,520	1,187	10	11,870
Howard	673	12	8,076	1,753	20	35	38,810	888	15	13,320
Madison	1,776	*12	21,312	1,899	*22	*36	45,572	872	*15	13,080
Posey	2,409	*12	28,908	2,259	*22	*36	54,206	532	*15	7,980
Jackson	1,635	12	19,620	1,408	20	50	64,190	995	10	9,950
Town of Salem ..	117	*12	1,404	249	*22	*36	5,912	78	*15	1,170
Total	21,158	.....	252,049	34,065	...	...	839,803	17,086	.....	247,140

Wayne County.

Abington	2,018	18	36,324	2,551	35	40	101,105	279	25	6,975
Boston	2,803	15	42,045	4,021	30	40	126,370	583	25	14,575
Center	4,565	15	68,475	6,075	30	40	190,930	1,357	25	23,925
Clay	1,570	15	23,550	2,708	27	45	80,082	405	20	8,100
Dalton	1,559	18	28,062	2,314	25	60	69,400	282	30	8,460
Franklin	1,867	18	33,606	4,055	35	45	157,715	1,289	30	38,670
Greene	2,199	18	39,582	3,821	40	65	166,465	1,077	20	21,540
Harrison	1,804	17	30,668	2,746	20	30	58,840	226	20	4,520
Jackson	3,577	20	71,540	3,572	35	40	127,570	873	15	13,095
Jefferson	2,941	15	44,115	3,250	30	50	106,780	762	20	15,240
New Garden	1,793	16	28,688	3,374	*32	*45	114,234	855	45	37,575
Perry	1,770	18	31,860	2,491	30	50	81,830	580	20	11,600
Washington	4,485	20	89,700	5,131	40	45	209,905	813	20	16,260
Wayne	4,746	18	85,428	7,423	40	50	307,520	1,729	30	51,870
Webster	1,296	12	15,552	2,432	30	40	76,430	725	20	14,760
Total	38,993	.....	669,195	55,964	...	...	1,975,176	11,835	.....	287,155

TABLE No. VIII.—Continued.

Wells County.

Townships.	Acres of Wheat, 1880.	Bushels per Acre.	Bushels of Wheat in 1880.	Acres of Corn, 1880.	Bushels per Acre.		Bushels of Corn in 1880.	Acres of Oats, 1880.	Bushels per Acre.	Bushels of Oats, 1880.
					Upland.	Bottom.				
Jackson.....	2,092	*16	33,172	3,428	*23	*35	83,900	460	*25	11,500
Chester	3,287	*18	52,592	3,462	*23	*35	82,366	383	*25	9,575
Liberty	2,474	16	39,584	2,323	20	30	49,780	406	15	6,090
Rock Creek.....	3,116	*16	49,856	3,528	*23	*35	87,192	276	*25	6,900
Union.....	3,192	17	54,194	3,249	25	20	78,905	762	20	15,240
Nottingham.....	4,407	*16	70,512	4,051	*23	*35	99,245	747	*25	18,675
Harrison.....	4,543	20	90,860	4,446	25	40	120,675	695	35	24,325
Lancaster.....	2,713	16	43,408	2,827	15	35	50,485	808	21	16,863
Jefferson.....	3,511	15	42,665	4,088	30	50	134,320	*567	35	19,845
Total.....	29,335	.....	477,143	31,302	...	...	786,868	5,099	.....	129,013

White County.

Prairie.....	3,481	*15	52,215	11,538	*19	*10	206,244	3,655	*20	73,100
Big Creek.....	1,784	*15	26,760	3,042	*19	*10	53,892	1,118	*20	22,360
Union.....	2,707	*15	40,605	2,665	*19	*10	47,215	811	*20	16,220
Monon.....	3,141	*15	47,115	2,792	*19	*10	49,567	1,327	*20	26,540
Liberty	3,064	15	45,960	2,961	15	...	44,415	744	30	22,320
Jackson.....	2,758	15	41,370	2,698	18	...	50,164	672	12	8,064
Princeton.....	1,080	10	10,800	6,724	20	...	134,480	1,814	23	41,723
West Point.....	968	*15	14,520	4,131	*19	*10	73,179	1,905	*20	38,100
Cass.....	1,268	*15	19,020	1,279	*19	*10	22,663	334	*20	6,680
Honey Creek.....	806	12	9,672	1,357	25	10	31,015	479	20	9,580
Round Grove....	841	15	12,615	7,183	20	...	143,660	2,074	17	35,258
Total.....	21,898	.....	320,652	46,370	...	...	856,394	14,933	.....	299,944

Whitley County.

Cleveland.....	4,485	18	80,780	3,747	30	40	117,760	1,317	30	39,510
Richland.....	3,471	*18	62,478	2,718	*34	*31	91,395	889	*30	26,670
Troy	1,998	18	35,964	1,734	40	20	64,620	625	30	18,750
Etna.....	1,263	*18	22,554	949	*34	*31	31,912	285	*30	8,550
Washington.....	2,989	*18	53,802	2,377	*34	*31	79,927	928	*30	27,840
Columbia	2,374	18	42,732	1,893	35	35	69,255	878	25	21,950
Thorn Creek.....	2,893	20	57,860	2,585	40	30	99,710	1,113	35	38,955
Jefferson.....	2,864	*18	51,552	2,769	*34	*31	91,959	933	*30	27,990
Union.....	2,755	15	41,325	2,372	30	...	71,160	807	30	24,210
Smith.....	2,585	20	50,700	2,306	30	...	69,180	764	30	22,920
Total.....	27,617	.....	499,697	23,450	...	...	786,878	8,539	.....	257,345

* Rate not reported by Township Trustee, but average of those reporting adopted by the Bureau.

NOTE.—In some cases the assessors failed to report the number of acres in wheat, corn, oats, meadow, and other agricultural items, and where the trustee afterward reported the production per acre of such omitted item the Bureau has estimated the number of acres. Where the trustees failed

to report, or where in reporting they omitted the rate per acre of such item, the Bureau have estimated the rate by taking the average of such as were reported in such county, and where the number reporting was too meagre the township reports of adjoining counties were thrown in to enlarge the average. The amount of bottom land planted in corn was estimated by the Bureau according to the probabilities indicated by the streams shown on the county maps. Where there was much overflowed land, or where there was but little bottom land, the average is not satisfactory, but it is the best that can be done till a more thorough system of collecting statistics is authorized. But while in the subdivisions of counties and townships it is in some instances unsatisfactory, and notably so in Marshall county, the average as applied to the State is believed to be approximately correct. The acreage in many cities and incorporated towns is given, and the number of acres in some of them will be a surprise to the reader, unless we explain that towns and cities often extend their boundaries far out into the adjoining country for school and other purposes, and as a consequence inclose much farming land.

TABLE No. IX.

STATEMENT showing, by townships for 1880, the acres of meadow, Irish and sweet potatoes, and tobacco, as reported by the assessors in April, 1880, and the rate per acre of such productions, as reported by the trustees in September and October, and the tons, bushels and pounds produced, as estimated by the Bureau.

NOTE.—Where the assessors reported acreage, and the trustees failed to report the rate per acre, and vice versa, the Bureau have estimated the rate per acre and the acreage on the basis of other townships that were reported; and where the list seemed too small, the townships of adjoining counties have been included so as to sufficiently enlarge the average. This has been omitted in some cases in relation to sweet potatoes and tobacco, where the probabilities were strong that the production was of trifling consequence.

For explanation of amounts reported from cities and towns, see foot note of preceding table on pages 87 and 88. Where whole townships have been entirely unreported, as in Gibson, Vigo, and some other counties, the figures of townships of equal territory have been adopted as an estimate.

Adams County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Po'nds
Union.....	853	1	853	84	25	2,100	.....	.....	.....	.....	.....	.....
Root.....	1,197	2	2,394	104	20	2,080	.....	.....	.....	.....	.....	.....
Preble.....	332	2	664	96	50	4,800	.....	.....	.....	.....	.....	.....
Kirkland.....	338	1	338	30	75	2,250	9	100	900	.....	.....	.....
Washington...	1,015	*1½	1,522	30	*41	1,320	.....	.....	.....	.....	.....	.....
St. Marys.....	920	1½	1,380	82	50	4,100	.....	.....	.....	.....	.....	.....
Blue Creek.....	550	1½	825	27	30	710	.....	.....	.....	.....	.....	.....
Monroe.....	792	1½	1,188	38	25	950	.....	.....	.....	.....	.....	.....
French.....	1,070	2	2,140	58	90	5,220	1	60	60	.....	.....	.....
Hartford.....	604	2	1,208	74	30	2,220	.....	.....	.....	.....	.....	.....
Wabash.....	538	1¼	692	36	50	1,800	1	*80	80	.....	.....	.....
Jefferson.....	443	*1½	664	73	*44	3,212	1	*80	80	.....	.....	.....
Geneva.....	16	*1½	24	2	*44	88	2	*80	160	.....	.....	.....
Total.....	8,668	...	13,892	734	...	30,850	14	.....	1,280	.....	.....	.....

TABLE NO. IX.—Continued.

Allen County.

Townships.	Meadow and Hay.			Irish Potatoes			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Wayne.....	535	*1¼	669	113	*62	7,006	1	.....	.....	1	*300	300
Washington...	2,106	*1¼	2,632	154	*62	9,548	.....	.....	.....	.....	.....	.....
Springfield....	1,515	1½	2,272	188	40	7,520	.....	.....	.....	.....	.....	.....
St. Josephs....	1,258	1½	1,887	305	50	15,250	1	.....	.....	.....	.....	.....
Perry.....	778	*1¼	966	128	*62	7,936	2	.....	.....	.....	.....	.....
Madison.....	1,018	1	1,018	96	*68	6,336	.....	.....	.....	.....	.....	.....
Monroe.....	694	*1¼	867	74	*62	4,588	.....	.....	.....	.....	.....	.....
Marion.....	1,332	2	2,664	112	25	2,800	.....	.....	.....	.....	.....	.....
Maumee.....	149	*1¼	186	28	*62	1,736	.....	.....	.....	.....	.....	.....
Milan.....	1,003	1½	1,504	159	100	15,900	.....	.....	.....	2	*300	600
Lake.....	5,896	*1¼	7,370	213	*62	15,066	.....	.....	.....	.....	.....	.....
Jefferson.....	1,086	1	1,086	250	100	25,000	.....	.....	.....	.....	.....	.....
Eel River.....	1,167	1	1,167	153	35	5,355	.....	.....	.....	.....	.....	.....
Cedar Creek...	757	*1¼	946	119	*62	7,378	.....	.....	.....	.....	.....	.....
Adams.....	1,509	1½	2,263	232	40	9,280	1	.....	.....	.....	.....	.....
Aboite.....	1,108	1½	1,662	141	100	14,100	.....	.....	.....	.....	.....	.....
Pleasant.....	935	*1¼	1,169	21	*62	1,302	1	.....	.....	.....	.....	.....
Scipio.....	552	2	1,104	74	75	5,620	.....	.....	.....	4	*700	2,800
Lafayette.....	958	2½	2,395	24	70	1,680	1	.....	.....	.....	.....	.....
Jackson.....	213	*1¼	266	43	*62	1,666	.....	.....	.....	.....	.....	.....
Total.....	24,564	...	34,093	2,657	...	165,067	7	.....	.....	7	.....	3,700

Bartholomew County.

Haw Creek.....	556	1½	834	21	*39	819	¼	*39	10	.....	.....	.....
Flat Rock.....	318	2	636	35	80	2,800	2½	*39	108	1	*500	500
German.....	234	2	468	28	40	1,120	1½	*39	59	2	*500	1,000
Nineveh.....	276	*1½	414	145	*40	5,800	1¼	*39	49	1½	*500	125
Union.....	726	2	1,452	36	*39	1,404	31	*39	1,209	3¼	*500	1,625
Clifty.....	523	*1½	784	3	*40	120	14	*39	546	.....	.....	.....
Clay.....	392	1	392	2	10	20	1	*39	39	.....	.....	.....
Columbus.....	656	2	1,312	73	20	1,460	14½	25	362	.....	.....	.....
Harrison.....	1,268	1	1,268	52	40	2,080	3½	50	175	29½	500	14,750
Rock Creek....	643	1½	964	15	75	1,125	½	*39	20	6¼	*500	3,125
Sand Creek....	482	1½	723	112	50	5,600	1	50	50	33	*500	16,500
Wayne.....	1,622	3	4,566	168	25	4,200	.....	.....	.....	6½	*500	3,250
Ohio.....	471	1½	706	14	50	700	*2	30	60	7	300	2,100
Jackson.....	517	½	258	56	10	560	.....	.....	.....	1	500	500
Total.....	8,584	.....	14,777	760	.....	27,808	73¼	.....	2,687	89¼	.....	43,475

TABLE No. IX.—Continued.

Benton County.

Townships.	Meadow and Hay.			Irish Potatoes			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Parish Grove..	314	1	314	39	*71	2,769	.....	.....	.....	.....	.....	.....
Pine.....	1,144	1½	1,716	14	10	140	14	*70	980	.....	.....	.....
Oak Grove.....	936	1½	1,404	26	200	5,200	.....	150	.....	.....	.....	.....
Gilboa.....	992	1½	1,488	59	25	1,475	.....	.....	.....	.....	.....	.....
York.....	705	*1½	1,057	34	*71	2,414	.....	.....	.....	.....	.....	.....
Center.....	3,198	*1½	4,797	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bolivar	1,467	2	2,934	42	*71	2,982	1	*70	70	11¼	.....	.....
Union.....	2,030	1½	2,537	*39	40	1,560	.....	.....	.....	.....	.....	.....
Richland.....	830	1½	1,275	111	*71	8,881	.....	.....	.....	.....	.....	.....
Grant.....	798	1½	1,197	20	80	1,600	4	*70	280	.....	.....	.....
Hickory Grove	77	*1½	115	6	*71	355	1	*70	70	.....	.....	.....
Total.....	12,511	.....	18,834	389	.....	27,376	20	.....	1,400	11¼	.....	.....

Blackford County.

Licking.....	2,316	2	4,632	83	*30	2,490	.....	.....	.....	.....	.....	.....
Washington...	1,353	1½	2,029	139	100	18,900	.....	150	.....	4	.....	.....
Harrison	818	2	1,636	48	40	1,920	1	50	50	.....	.....	.....
Jackson.....	756	1	756	79	20	1,580	.....	20	.....	.....	.....	.....
Total.....	5,243	.....	9,053	349	.....	19,890	1	.....	50	4	.....	.....

Boone County.

Marion.....	1,000	1½	1,500	90	20	1,800	12	95	1,140	.....	.....	.....
Clinton.....	33	2	66	*76	20	1,520	.....	.....	.....	.....	.....	.....
Washington...	968	*1½	1,452	12	*22	264	.....	.....	.....	.....	.....	.....
Sugar Creek...	815	1½	1,222	77	25	1,925	3	25	75	1	.....	.....
Jefferson	1,290	*1½	1,935	32	*22	704	.....	.....	.....	.....	.....	.....
Center	940	*1½	1,410	30	*22	660	3	*95	285	.....	.....	.....
Union.....	578	1½	867	28	*23	644	1	*95	95	.....	.....	.....
Eagle	502	2	1,004	143	20	2,860	.....	.....	.....	5	.....	.....
Perry	458	*1½	687	167	*22	3,674	2	*95	190	.....	.....	.....
Harrison.....	514	1	514	140	20	2,980	.....	60	.....	.....	.....	.....
Jackson.....	808	*1½	1,212	40	*22	880	.....	.....	.....	.....	.....	.....
Worth.....	198	2	396	73	25	1,825	2	200	400	.....	.....	.....
Total.....	8,104	.....	12,265	917	.....	19,736	23	.....	2,185	6	.....	.....

TABLE No. IX.—Continued.

Allen County.

Townships.	Meadow and Hay.			Irish Potatoes			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Wayne.....	535	*1¼	669	113	*62	7,006	1	.....	.....	1	*300	300
Washington...	2,106	*1¼	2,632	154	*62	9,548	.....	.....	.....	.....	.....	.....
Springfield.....	1,515	1½	2,272	188	40	7,520	.....	.....	.....	.....	.....	.....
St. Josephs.....	1,258	1½	1,887	305	50	15,250	1	.....	.....	.....	.....	.....
Perry.....	773	*1¼	966	128	*62	7,936	2	.....	.....	.....	.....	.....
Madison.....	1,018	1	1,018	96	*66	6,336	.....	.....	.....	.....	.....	.....
Monroe.....	694	*1¼	867	74	*62	4,588	.....	.....	.....	.....	.....	.....
Marion.....	1,332	2	2,664	112	25	2,800	.....	.....	.....	.....	.....	.....
Maumee.....	149	*1¼	188	28	*62	1,736	.....	.....	.....	.....	.....	.....
Milan.....	1,003	1½	1,504	159	100	15,900	.....	.....	.....	2	*800	600
Lake.....	5,896	*1¼	7,370	243	*62	15,066	.....	.....	.....	.....	.....	.....
Jefferson.....	1,086	1	1,086	250	100	25,000	.....	.....	.....	.....	.....	.....
Eel River.....	1,167	1	1,167	153	35	5,355	.....	.....	.....	.....	.....	.....
Cedar Creek...	757	*1¼	946	119	*62	7,378	.....	.....	.....	.....	.....	.....
Adams.....	1,509	1½	2,263	232	40	9,280	1	.....	.....	.....	.....	.....
Aboite.....	1,108	1½	1,662	141	100	14,100	.....	.....	.....	.....	.....	.....
Pleasant.....	935	*1¼	1,169	21	*62	1,302	1	.....	.....	.....	.....	.....
Scipio.....	552	2	1,104	74	75	5,620	.....	.....	.....	4	*700	2,800
Lafayette.....	958	2½	2,395	24	70	1,680	1	.....	.....	.....	.....	.....
Jackson.....	213	*1¼	266	43	*62	1,666	.....	.....	.....	.....	.....	.....
Total.....	24,564	...	34,093	2,657	...	165,067	7	.....	.....	7	.....	3,700

Bartholomew County.

Haw Creek.....	556	1½	834	21	*39	819	¼	*39	10	.....	.....	.....
Flat Rock.....	318	2	686	35	80	2,800	2½	*39	108	1	*500	500
German.....	234	2	468	28	40	1,120	1½	*39	59	2	*500	1,000
Nineveh.....	276	*1½	414	145	*40	5,800	1¼	*39	49	½	*500	125
Union.....	726	2	1,452	36	*39	1,404	31	*39	1,209	3¼	*500	1,625
Clifty.....	523	*1½	784	3	*40	120	14	*39	546	.....	.....	.....
Clay.....	392	1	392	2	10	20	1	*39	39	.....	.....	.....
Columbus.....	656	2	1,312	73	20	1,460	14½	25	362	.....	.....	.....
Harrison.....	1,268	1	1,268	52	40	2,080	3½	50	175	29½	500	14,750
Rock Creek....	643	1½	964	15	75	1,125	½	*39	20	6¼	*500	3,125
Sand Creek....	482	1½	723	112	50	5,600	1	50	50	33	*500	16,500
Wayne.....	1,522	3	4,566	168	25	4,200	.....	.....	.....	6½	*500	3,250
Ohio.....	471	1½	706	14	50	700	*2	30	60	7	300	2,100
Jackson.....	517	½	258	56	10	560	.....	.....	.....	1	500	500
Total.....	8,584	.....	14,777	760	.....	27,808	73¼	.....	2,687	89¾	.....	43,475

TABLE No. IX.—Continued.

Benton County.

Townships.	Meadow and Hay.			Irish Potatoes			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Parish Grove..	314	1	314	39	*71	2,769	.....	.....	.....	.....	.....	.....
Pine.....	1,144	1½	1,716	14	10	140	14	*70	980	.....	.....	.....
Oak Grove.....	936	1½	1,404	26	200	5,200	.....	150	.....	.....	.....	.....
Gilboa.....	992	1½	1,488	59	26	1,475	.....	.....	.....	.....	.....	.....
York.....	705	*1½	1,057	34	*71	2,414	.....	.....	.....	.....	.....	.....
Center.....	3,198	*1½	4,797	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bolivar	1,467	2	2,934	42	*71	2,982	1	*70	70	11¼	.....	.....
Union.....	2,080	1¼	2,537	*39	40	1,560	.....	.....	.....	.....	.....	.....
Richland.....	830	1½	1,275	111	*71	8,881	.....	.....	.....	.....	.....	.....
Grant.....	798	1½	1,197	20	80	1,600	4	*70	280	.....	.....	.....
Hickory Grove	77	*1½	115	5	*71	355	1	*70	70	.....	.....	.....
Total.....	12,511	.....	18,834	389	.....	27,376	20	.....	1,400	11¼	.....	.....

Blackford County.

Licking.....	2,316	2	4,632	83	*30	2,480	.....	.....	.....	.....	.....	.....
Washington...	1,353	1½	2,029	139	100	13,900	.....	150	.....	4	.....	.....
Harrison	818	2	1,636	48	40	1,920	1	50	50	.....	.....	.....
Jackson.....	756	1	756	79	20	1,580	.....	20	.....	.....	.....	.....
Total.....	5,243	.....	9,053	349	.....	19,890	1	.....	50	4	.....	.....

Boone County.

Marion.....	1,000	1½	1,500	90	20	1,800	12	95	1,140	.....	.....	.....
Clinton.....	33	2	66	*76	20	1,520	.....	.....	.....	.....	.....	.....
Washington...	968	*1½	1,452	12	*22	264	.....	.....	.....	.....	.....	.....
Sugar Creek...	815	1½	1,222	77	25	1,925	3	25	75	1	.....	.....
Jefferson	1,290	*1½	1,935	32	*22	704	.....	.....	.....	.....	.....	.....
Center	940	*1½	1,410	30	*22	660	3	*95	285	.....	.....	.....
Union.....	578	1½	867	28	*23	644	1	*95	95	.....	.....	.....
Eagle	502	2	1,004	143	20	2,860	.....	.....	.....	5	.....	.....
Perry	458	*1½	687	167	*22	3,674	2	*95	190	.....	.....	.....
Harrison.....	514	1	514	149	20	2,980	.....	60	.....	.....	.....	.....
Jackson.....	808	*1½	1,212	40	*22	880	.....	.....	.....	.....	.....	.....
Worth.....	198	2	396	73	25	1,825	2	200	400	.....	.....	.....
Total.....	8,104	.....	12,265	917	.....	19,736	23	.....	2,185	6	.....	.....

TABLE No. IX.—Continued.

Brown County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Hamblen.....	1,611	1	1,611	125	25	3,125	5	40	200	84	500	42,000
Jackson.....	1,352	*1½	1,803	73	*25	1,825	1	*40	40	45	*700	32,500
Washington...	1,926	*1½	2,568	166	*25	4,150	19	*40	760	60	*700	42,000
Van Buren.....	1,835	*1½	2,752	140	80	4,200	.....	50	.....	255	600	153,000
Johnson.....	555	1½	832	3	20	60	.....	30	.....	8	1,000	8,000
Total.....	7,279	.....	9,566	507	.....	13,860	25	.....	1,000	452	.....	277,500

Carroll County.

Jackson.....	635	1½	952	43	25	1,075	1	30	30	.....	.....	.....
Madison.....	365	*1½	547	14	*36	504	1	*22	22	.....	.....	.....
Deer Creek....	815	1	915	25	70	1,750	7	*22	154	.....	.....	.....
Tippecanoe....	440	2	880	230	60	13,800	.....	.....	.....	.....	.....	.....
Jefferson.....	547	*1½	820	23	*36	828	.....	.....	.....	.....	.....	.....
Adams.....	571	1	571	36	*36	1,296	.....	.....	.....	.....	.....	.....
Rock Creek....	624	2	1,248	30	25	750	¼	15	4	.....	.....	.....
Washington...	659	1¾	1,054	27	35	945	.....	.....	.....	.....	.....	.....
Carrollton....	419	1½	628	28	40	1,120	.....	.....	.....	.....	.....	.....
Burlington....	676	2	1,352	80	*36	2,880	1	*22	22	1	.....	.....
Monroe.....	435	1½	652	4	20	80	1	*22	22	.....	.....	.....
Democrat.....	686	1½	1,029	51	10	510	1	*22	22	.....	.....	.....
Clay.....	351	*1½	526	39	*36	1,404	.....	.....	.....	.....	.....	.....
Total.....	7,223	.....	11,074	630	.....	26,942	12¼	.....	276	1	.....	.....

Cass County.

Boone.....	1,260	2	2,520	121	75	9,075	1	*40	40	2	*100	200
Harrison.....	768	2	1,536	98	100	9,800	.....	.....	.....	½	*100	50
Bethlehem....	595	1½	892	148	40	5,920	.....	.....	.....	.....	.....	.....
Jefferson.....	525	*1½	787	171	*43	7,353	1	*40	40	.....	.....	.....
Noble.....	638	*1½	957	93	*43	3,999	3	*40	120	.....	.....	.....
Clay.....	651	2	1,302	96	30	2,880	2	*40	80	.....	.....	.....
Adams.....	350	1	350	26	25	650	.....	25	.....	*2½	100	250
Miami.....	259	1	259	65	50	3,250	¼	75	18	.....	.....	.....
Eel.....	261	1	261	33	26½	884	1	*40	40	5½	*100	550
Clinton.....	653	1½	979	92	35	3,220	.....	.....	.....	.....	.....	.....
Washington...	958	*1½	1,437	28	*43	1,204	.....	.....	.....	.....	.....	.....
Tipton.....	831	1½	1,246	124	40	5,460	.....	.....	.....	.....	.....	.....
Deer Creek....	706	1½	1,059	*87	20	1,740	*1	20	20	.....	.....	.....
Jackson.....	439	1½	658	29	*37	1,073	1	*40	40	.....	.....	.....
Total.....	8,894	.....	14,243	1,221	.....	56,508	10¼	.....	398	10½	.....	1,060

TABLE No. IX.—Continued.

Clark County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Jeffersonville..	1,189	*1½	1,783	143	*50	7,150	79	*50	3,950	.....	.....	.....
Utica.....	836	1½	504	87	50	4,350	11	*50	550	.....	.....	.....
Charlestown...	1,713	*1½	2,569	61	*50	3,050	.....	.....	.....	.....	.....	.....
Owen	793	2	1,586	11	50	550	1	50	50	24	*500	12,000
Bethlehem	890	*1½	585	45	*50	2,250	.....	.....	.....	87	*500	43,500
Washington...	711	*1½	1,066	4	*50	200	.....	.....	.....	.....	.....	.....
Monroe	920	*1½	1,380	92	*50	4,600	5	*50	250	10	*500	5,000
Silver Creek...	985	1	985	118	75	8,850	8	75	225	.....	.....	.....
Wood	471	2	942	75	50	3,750	2	50	100	2	500	1,000
Oregon.....	878	*1½	1,317	47	*50	2,350	4	*50	200	1	*500	500
Carr	447	1	447	165	20	3,300	8	30	90	.....	.....	.....
Union.....	852	*1½	1,278	8	*50	400	.....	.....	.....	1	*500	500
Total.....	9,685	.....	14,442	856	.....	40,800	108	.....	5,415	125	.....	62,500

Clay County.

Posey.....	1,747	1	1,747	144	15	2,160	2	*63	126	.....	.....	.....
Dick Johnson.	605	2½	1,512	71	20	2,130	2	*63	126	4	*666	2,664
Van Buren.....	1,668	2	3,336	45	5	225	.....	.....	.....	.....	.....	.....
Jackson.....	1,008	2	2,016	82	50	4,100	1	*63	63	.....	.....	.....
Brazil.....	182	2	364	3	30	90	.....	.....	.....	*1	1,000	1,000
Perry.....	1,206	1½	1,807	147	70	10,290	1	*63	63	.....	.....	.....
Lewis.....	909	1	909	69	35	2,415	7	*63	441	4	500	2,000
Harrison.....	2,440	4	9,760	92	30	4,150	1	60	60	1	*666	666
Washington...	1,552	1½	2,328	64	75	4,800	1	100	100	*1	500	500
Cass.....	360	*2	720	2	*40	80	.....	.....	.....	.....	.....	.....
Sugar Ridge...	330	1	330	6	80	180	1	30	30	.....	.....	.....
Total.....	12,006	...	24,829	725	...	30,620	16	.....	1,009	11	.....	6,830

Clinton County.

Center.....	819	1½	1,228	7	*28	196	.....	.....	.....	.....	.....	.....
Jackson.....	1,181	*1½	177	17	*28	476	.....	.....	.....	.....	.....	.....
Washington...	620	2	1,240	64	15	960	.....	30	.....	.....	600	.....
Perry	784	1½	1,176	12	20	240	1	*35	35	.....	.....	.....
Madison.....	856	2	712	58	10	530	.....	.....	.....	.....	.....	.....
Ross	648	1½	972	49	25	1,225	28	*35	980	.....	.....	.....
Kirklin	900	1	900	20	100	2,000	1	50	50	.....	300	.....
Michigan	792	*1½	1,188	74	*28	2,072	.....	.....	.....	.....	.....	.....
Warren.....	404	1½	606	19	80	570	2	25	50	.....	250	.....
Owen	454	1½	681	31	5	155	.....	.....	.....	.....	.....	.....
Sugar Creek...	466	1	466	8	20	160	.....	.....	.....	.....	800	.....
Johnston.....	1,068	*1½	1,602	58	*28	1,484	.....	.....	.....	.....	.....	.....
Frankfort c...	61	*1½	91	3	*28	84	.....	.....	.....	.....	.....	.....
Total.....	8,553	...	11,039	410	...	10,152	32	.....	1,115	.....	.....	.....

TABLE No. IX.—Continued.

Crawford County.

Townships.	Meadow and Hay.			Irish Potatoes.		Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Jennings.....	992	2	1,984	125	46	4	460	640	.....	.....	.....
Whiskyrum.....	879	2	1,758	80	46	3	460	480	2	2,400	600
Liberty.....	615	2	1,230	.....	.....	.....	.....	.....	.....	.....	.....
Sterling.....	783	2	1,566	9	46	1	460	160	3	300	900
Patoka.....	266	2	532	34	50	1	100	100	5	300	1,500
Johnson.....	191	2	382	6	46	.....	.....	.....	.....	.....	.....
Union.....	162	3	486	23	40	1	30	30	.....	.....	.....
Ohio.....	195	2	390	304	50	4	350	1,400	3	2,300	900
Boone.....	137	2	274	28	46	1	460	160	.....	.....	.....
Total.....	4,220	.....	8,602	609	.....	29,228	15	.....	2,970	13	3,900

Darriess County.

Washington c	501	1 1/2	751	20	58	1,160	.....	.....	.....	.....	.....
Washington...	1,148	1 1/2	1,722	145	58	8,410	125	332	4,000	10	950
Veale.....	504	2	1,008	63	71	4,473	2	32	64	.....	.....
Reeve.....	1,207	3	3,621	26	30	780	3	40	120	19 1/4	1,000
Harrison.....	1,105	1 1/2	1,657	36	75	2,475	6	50	300	.....	.....
Montgomery t	30	1 1/2	45	1	58	58	.....	.....	.....	.....	.....
Barr.....	2,113	1 1/2	3,169	41	58	2,378	2	32	64	3 1/8	900
Van Buren.....	753	2 1/2	300	23	134	3,082	1	10	10	1	900
Madison.....	1,217	1 1/2	1,825	28	58	1,624	1	32	32	.....	.....
Elmore.....	371	1	371	9	25	225	1	30	30	.....	.....
Steele.....	669	1	669	48	30	1,440	1	30	30	1	950
Bogard.....	630	1 1/2	945	28	40	1,120	9	30	270	.....	.....
Total.....	10,248	.....	16,083	466	.....	27,225	153	.....	4,920	54 1/8	33,569

Dearborn County.

Harrison.....	297	1	297	91	50	1,550	3	84	252	.....	.....
Logan.....	571	1 1/2	761	85	40	3,520	3	60	180	.....	.....
Miller.....	2,026	1	2,026	153	20	3,060	.....	.....	.....	.....	.....
Lawrenceb'g..	799	2	1,598	29	60	1,450	1	40	40	.....	.....
Center.....	595	1	595	36	75	2,700	3	84	252	2	.....
Hogan.....	725	1 1/2	362	60	85	5,100	1	110	110	.....	.....
Manchester...	3,253	1	3,253	296	75	22,200	2	75	150	.....	.....
York.....	773	1	773	131	40	5,240	1	150	150	.....	.....
Kelso.....	601	1	601	142	50	7,100	2	84	168	.....	.....
Jackson.....	2,058	1	2,058	90	20	1,800	.....	.....	.....	.....	.....
Sparta.....	1,311	1	1,341	86	50	4,300	1	70	70	.....	100
Clay.....	1,221	1	1,221	8	50	400	1	84	84	.....	.....
Caesar Creek...	401	1	401	53	35	1,855	4	84	336	.....	.....
Washington...	826	1	826	38	50	1,900	.....	.....	.....	.....	.....
St. Leon t.....	228	1	228	62	50	3,100	1	84	84	.....	.....
Moore's Hill t	80	1	30	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	15,715	.....	16,371	1,363	.....	68,270	23	.....	1,876	2	.....

TABLE No. IX.—Continued.

Decatur County.

Townships.	Meadow and Hay.			Irish Potatoes.		Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Washington....	1,624	3	4,872	112	125	14,875	2	85	170	.....	.....
Fugit	1,001	1½	1,636	82	70	5,740	.....	.....	.....	.....	.....
Clinton.....	304	1	304	12	65	780	.....	18	18	.....	500
Adams	463	1½	694	15	75	1,125	.....	60	60	.....	.....
Clay.....	719	1½	1,078	35	30½	1,382	.....	45	45	.....	5666
Jackson.....	877	1½	1,531	3	30	90	1	40	40	.....	.....
Sand Creek.....	892	1½	1,338	5	67	335	.....	.....	.....	.....	.....
Marion.....	1,853	1½	2,749	181	67	12,127	15	50	750	.....	.....
Salt Creek.....	1,061	1½	1,591	71	68	4,828	.....	.....	.....	.....	.....
Total.....	8,864	.....	15,796	523	.....	41,282	21	.....	1,083	.....	.....

DeKalb County.

Butler.....	481	1½	721	14	40	5,680	.....	.....	.....	.....	.....
Jackson.....	783	1	783	63	40	2,520	.....	.....	.....	.....	.....
Concord.....	1,241	1½	1,866	153	120	18,360	1	110	110	.....	.....
Newville.....	37	1½	53	2	50	100	.....	.....	.....	.....	.....
Stafford.....	400	1½	600	29	65	1,885	.....	.....	.....	.....	.....
Wilmington...	1,136	1½	1,704	18	50	900	10	110	1,100	.....	.....
Union.....	850	1½	1,275	53	150	7,950	1	150	600	.....	.....
Richland.....	112	1½	168	10	67	670	.....	.....	.....	.....	.....
Fairfield.....	1,030	2	2,060	115	30	3,450	.....	.....	.....	.....	.....
Smithfield.....	767	1½	1,150	79	75	5,925	.....	70	70	.....	.....
Franklin.....	906	1½	1,359	151	70	10,570	.....	.....	.....	.....	.....
Troy.....	358	2	716	26	70	1,820	.....	.....	.....	.....	.....
Keyser.....	451	2	902	84	90	7,560	.....	.....	2	.....	.....
Total.....	8,555	.....	13,357	925	...	67,390	16	.....	1,880	2	.....

Delaware County.

Salem.....	625	1½	937	70	85	5,950	2	80	160	.....	.....
Mt. Pleasant..	606	1½	909	36	50	1,800	.....	.....	.....	.....	.....
Harrison.....	754	1½	1,131	111	100	11,100	.....	75	75	.....	.....
Washington...	1,001	.....	1,001	15	50	750	.....	.....	.....	.....	.....
Monroe.....	938	1½	1,407	50	40	2,000	.....	35	35	.....	.....
Center.....	931	.....	931	.....	.....	.....	1	50	50	.....	.....
Hamilton.....	546	1½	819	1	30	30	.....	50	50	.....	.....
Union.....	745	2	1,490	4	10	40	.....	20	20	1,000	.....
Perry.....	679	1½	1,018	27	50	1,350	.....	40	40	500	.....
Liberty.....	1,078	1	1,078	91	50	4,550	.....	40	40	.....	.....
Delaware.....	617	1	617	1	30	30	.....	.....	.....	.....	.....
Niles.....	722	.....	722	6	50	300	1	50	.....	.....	.....
Total.....	9,242	.....	12,060	412	...	27,900	10	.....	470	.....	.....

TABLE No. IX.—Continued.

Dubois County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bush-els.	Acres.	Pounds per Acre.	Po'nds
Columbia.....	372	1½	558	4	15	60	1	10	10	3	600	1,800
Harbison.....	852	*2	1,704	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boone.....	707	*2	1,414	13	*45	585	½	*60	30	¾	1,000	750
Madison	765	1½	1,147	12	125	1,500	1	75	75	3	800	2,400
Bainbridge.....	1,108	1½	1,662	.....	.....	.....	*1	140	140	1	800	800
Marion.....	43	1	43	23	100	2,300	1	100	100	99	2,000	198,000
Hall.....	282	*2	564	39	*45	1,755	6	*60	360	79	1,000	79,000
Jefferson.....	301	4½	1,234	80	10	800	*1	20	20	35	700	24,500
Jackson.....	5	1½	7	2	20	40	.....	.....	.....	124	200	36,800
Patoka.....	1,068	2½	2,670	69	50	3,450	*1	40	40	156½	400	62,600
Cass.....	90	1½	135	114	18	2,052	.....	.....	.....	145	700	101,500
Ferdinand.....	35	*2	70	117	25	2,925	1	30	30	356	500	178,000
Total.....	5,628	.....	11,208	473	.....	15,467	13½	.....	805	1,062¼	.....	695,150

Elkhart County.

Elkhart.....	754	1¾	1,318	44	240	10,560
Clinton.....	787	2	1,574	136	50	6,800	*1	100	100	.....	.....	.....
Benton.....	679	1½	1,018	99	60	5,940	.....	.....	.....	.....	.....	.....
Jackson.....	532	2	1,064	23	150	3,450	*1	200	200	.....	.....	.....
Harrison.....	767	1½	1,150	31	100	3,100	.....	.....	.....	.....	.....	.....
Concord.....	473	*2	946	138	*84	11,592	2	*100	200	.....	.....	.....
Baugo.....	199	1	199	82	50	4,100	*1	100	100	.....	.....	.....
Olive.....	539	2	1,078	102	25	2,550	.....	.....	.....	.....	.....	.....
Jefferson	451	1½	676	9	75	675	.....	.....	.....	.....	.....	.....
Middlebury ...	540	2	1,080	4	50	200	.....	.....	.....	.....	.....	.....
York.....	150	1½	225	52	75	3,900	8	*100	800	.....	.....	.....
Washington...	313	2	626	109	65	10,085	4	*100	400	3	.....	.....
Osalo.....	294	*2	588	94	*84	7,896	.....	.....	.....	.....	.....	.....
Cleveland	183	*2	366	109	*84	9,156	1	*100	100	.....	.....	.....
Union.....	912	1	912	101	100	10,100	.....	.....	.....	.....	.....	.....
Locke.....	227	2	454	*75	50	3,750	.....	.....	.....	.....	.....	.....
Total.....	7,800	.....	13,274	1,208	.....	93,854	18	.....	1,900	3	.....	.....

Fayette County.

Connersville...	560	1½	840	141	150	21,150	3	200	600	1	.....	.....
Jackson.....	523	1½	784	97	100	9,700	*1	75	75	.....	.....	.....
Jennings	544	*1½	816	31	*93	2,883	1	*25	95	.....	.....	.....
Columbia.....	315	*1½	472	55	*93	5,115	.....	.....	.....	.....	.....	.....
Orange.....	460	1½	690	48	100	4,800	2	100	200	.....	.....	.....
Harrison.....	560	*1½	840	76	*93	7,068	1	*95	95	1	.....	.....
Posey	692	2	1,384	50	50	2,500	*1	40	40	4	.....	.....
Waterton	524	*1½	786	40	*93	3,720	1	*95	95	.....	.....	.....
Fairview.....	267	1½	400	8	65	520	*1	60	60	.....	.....	.....
Total.....	4,445	.....	7,012	546	.....	57,458	11	.....	1,260	6	.....	.....

TABLE No. IX.—Continued.

Floyd County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bush-els.	Acres.	Pounds per Acre.	Po'nds
New Albany...	1,511	*2	3,022	405	*50	20,250	53	*51	2,703	.....	.....	.....
Greenville.....	1,090	1¼	1,362	37	80	2,960	5	60	300	.....	.....	.....
Georgetown...	391	2	782	63	80	5,040	1	80	80	8	.....	.....
Lafayette.....	477	2	854	166	20	3,320	5	15	75	.....	.....	.....
Franklin.....	225	1½	337	205	20	4,100	1	*51	51	.....	.....	.....
Total.....	3,694	.....	6,357	876	.....	35,670	65	.....	3,209	8	.....	.....

Fountain County.

Jackson.....	1,004	*1½	1,506	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mill Creek.....	294	1½	441	10	10	100	5	50	250	.....	.....	.....
Fulton.....	697	1	697	32	*10	320	*1	63	63	.....	.....	.....
Wabash.....	845	*1½	1,267	15	*18	270	2	*52	104	.....	.....	.....
Cain.....	864	1½	1,296	24	50	1,100	*1	50	50	.....	.....	.....
Van Buren....	975	2	1,950	21	20	420	*1	50	50	.....	.....	.....
Troy.....	1,001	*1½	1,501	66	*18	1,188	1	*52	52	.....	.....	.....
Richland.....	1,573	*1½	2,359	93	*18	1,674	5	*52	260	.....	.....	.....
Shawnee.....	758	1½	1,137	37	10	370	*1	50	50	.....	.....	.....
Logan.....	546	*1½	819	36	*18	648	.....	.....	.....	1	.....	.....
Davis.....	657	1½	985	60	10	600	4	*52	208	.....	.....	.....
Total.....	9,214	.....	13,958	394	.....	6,690	21	.....	1,087	1	.....	.....

Franklin County.

Bath.....	292	*1	292	12	*57	684	.....	.....	.....	.....	.....	.....
Springfield....	420	*1	420	10	*57	570	5	*90	450	.....	.....	.....
Whitewater...	658	*1	658	51	*57	2,907	2	*90	180	.....	.....	.....
Highland.....	610	*1	610	278	*57	15,846	6	*90	540	5	.....	.....
Brookville.....	1,079	1	1,079	197	75	14,775	2	*90	180	3	.....	.....
Fairfield.....	427	1½	640	11	100	1,100	.....	.....	.....	.....	.....	.....
Blooming G've	678	1	678	23	140	3,220	*1	80	80	.....	.....	.....
Laurel.....	689	*1	689	61	*57	3,117	.....	.....	.....	6	.....	.....
Metamora.....	301	1½	450	97	60	5,820	5	300	1,500	1	.....	.....
Butler.....	727	½	363	256	8	2,048	1	10	10	5	.....	.....
Ray.....	1,613	*1½	2,419	229	6	1,374	.....	.....	.....	.....	.....	.....
Salt Creek.....	429	2	858	101	10	1,010	4	25	100	*1	50	50
Posey.....	406	1	406	28	60	1,680	*1	45	45	.....	.....	.....
Total.....	8,329	.....	9,562	1,354	.....	54,151	26	.....	3,085	21	.....	.....

TABLE No. IX.—Continued.

Fulton County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Wayne.....	318	2	636	46	40	1,840	.....	.....	.....	.....	.....	.....
Union.....	437	2	874	14	100	1,400	.....	.....	.....	.....	.....	.....
Aubbeen'abee.	118	1½	177	36	60	2,160	5	*60	300	.....	.....	.....
Liberty.....	518	2	1,036	111	40	4,440	4	*60	240	.....	.....	.....
Rochester.....	835	*2	1,670	184	*56	10,304	4	*60	240	2	.....	.....
Richland.....	368	*2	736	39	*56	2,184	.....	.....	.....	.....	.....	.....
Henry.....	582	2	1,164	79	40	3,160	*1	60	60	.....	.....	.....
New Castle.....	741	*2	1,482	164	*56	9,184	8	*60	480	.....	.....	.....
Total.....	3,917	.....	7,775	673	.....	34,672	22	.....	1,320	2	.....	.....

Gibson County.

Columbia.....	421	*1	421	86	*95	3,420	.....	.....	.....	.....	.....	.....
Patoka.....	1,179	*1	1,179	50	*95	4,750	3	*150	450	.....	.....	.....
White River...	518	*1½	777	132	*100	13,200	36	*150	5,400	.....	.....	.....
Washington...	461	1	461	19	50	950	.....	.....	.....	.....	.....	.....
Montgomery†	1,242	1½	1,863	46	200	9,200	7	200	1,400	.....	.....	.....
Johnson†.....	1,242	1½	1,863	46	50	2,300	7	100	700	.....	.....	.....
Wabash.....	32	*1	32	6	*95	570	.....	.....	.....	.....	.....	.....
Barton.....	716	1½	1,074	87	75	2,775	1	*150	150	.....	800	.....
Center.....	582	*1	582	147	*95	13,965	2	*150	300	.....	.....	.....
Total.....	6,393	.....	8,252	519	.....	51,130	56	.....	8,400	.....	.....	.....

Grant County.

Van Buren....	508	*1½	762	27	*52	1,404	.....	.....	.....	.....	.....	.....
Washington...	1,129	*1½	1,693	1	*52	52	.....	.....	.....	.....	.....	.....
Richland.....	695	*2	1,370	48	*52	2,496	1	*100	100	.....	.....	.....
Center.....	554	2	1,108	57	*50	2,850	1	*100	100	.....	.....	.....
Mill.....	598	*2	1,196	43	*52	2,236	.....	.....	.....	.....	.....	.....
Monroe.....	1,252	1½	1,878	120	*52	6,240	.....	.....	.....	.....	.....	.....
Jefferson.....	1,150	1½	1,725	16	35	560	.....	.....	.....	1	.....	.....
Fairmont.....	684	1½	1,026	*1	75	75	*1	100	100	.....	.....	.....
Liberty.....	108	1½	162	60	*52	3,120	.....	.....	.....	17½	.....	.....
Green.....	310	*1½	465	17	*52	884	21	*100	2,100	.....	.....	.....
Sims.....	522	*1½	783	35	*52	1,820	.....	.....	.....	1	.....	.....
Franklin.....	711	2	1,422	76	*50	3,800	2	*100	200	.....	.....	.....
Total.....	8,211	.....	13,590	501	.....	25,537	26	.....	2,600	19¼	.....	.....

† These townships are averaged.

TABLE No. IX.—Continued.

Greene County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bush-els.	Acres.	Pounds per Acre.	Po'nds
Richland.....	788	1½	1,179	40	35	1,400	10	25	250	2	800	1,600
Taylor.....	3,406	*1½	5,109	14	*50	700	2	*46	92	.....	.....	.....
Cass.....	253	*1½	379	16	*50	800	1	*46	46	.....	.....	.....
Jackson.....	1,536	*1½	2,304	5	*50	250	.....	.....	.....	8	*500	4,000
Center.....	511	1½	766	7	40	280	*1	50	50	4	700	2,800
Beech Creek...	877	1	877	3	50	150	2	25	50	63	100	6,300
Highland.....	935	2	1,870	48	100	4,800	6	75	450	31	*500	15,500
El River.....	213	2	426	7	50	350	.....	.....	.....	.....	.....	.....
Fairplay.....	561	*1½	841	10	*50	500	.....	.....	.....	.....	.....	.....
Smith.....	1,687	*1½	2,530	2	*50	100	.....	.....	.....	.....	.....	.....
Wright.....	930	1½	1,395	24	20	480	*1	80	80	.....	.....	.....
Stockton.....	1,154	1	1,154	1	*47	47	7	*46	322	.....	.....	.....
Stafford.....	793	1½	1,189	21	*47	987	.....	.....	.....	.....	.....	.....
Washington...	340	1	340	143	40	5,720	*1	40	40	.....	.....	.....
Jefferson.....	418	2	836	1	40	40	*1	30	30	.....	.....	.....
Worthington..	112	*1½	168	2	*50	100	.....	.....	.....	.....	.....	.....
Grant.....	612	*1½	918	24	*50	1,200	.....	.....	.....	.....	.....	.....
Total.....	15,124	.....	22,281	368	.....	17,904	32	.....	1,410	108	.....	80,200

Hamilton County.

Nobleaville....	1,710	1½	2,565	170	45	7,650	7	75	525	3	.....	.....
Washington...	1,743	2	3,486	162	20	3,640	6	80	480	.....	.....	.....
Clay.....	1,084	1½	1,626	260	5	1,300	.....	.....	.....	6	.....	.....
Delaware.....	635	1½	952	131	40	5,240	1	*57	57	.....	.....	.....
Fall Creek.....	587	2	1,074	62	5	310	1	16	16	2	.....	.....
Wayne.....	1,085	1½	1,552	35	15	525	.....	.....	.....	.....	.....	.....
White River...	1,183	*1½	1,774	43	*21	903	.....	.....	.....	1	.....	.....
Jackson.....	1,345	1½	2,017	125	20	2,500	2	*57	114	.....	.....	.....
Adams.....	1,217	2	2,434	190	*21	3,990	7	*57	399	3	.....	.....
Total.....	10,489	.....	17,480	1,178	.....	26,058	24	.....	1,591	15	.....	.....

Hancock County.

Blue River....	999	2	798	20	50	1,000	4	75	300	.....	.....	.....
Brown.....	580	*1½	870	11	*38	418	.....	.....	.....	.....	.....	.....
Brandywine ..	472	1¼	590	6	50	300	1	*41	41	*1	810	810
Buck Creek ...	776	2	1,552	66	35	2,310	1	*41	41	.....	.....	.....
Center.....	1,113	1½	1,669	38	30	1,140	*1	30	30	7	1,000	7,000
Green.....	502	*1½	753	7	*38	266	.....	.....	.....	1	*905	905
Jackson.....	544	2	1,088	6	40	240	*1	50	50	.....	.....	.....
Sugar Creek...	334	1½	501	58	50	2,900	3	*41	123	.1	*905	905
Vernon.....	509	1½	763	12	10	120	1	10	10	.....	.....	.....
Total.....	5,229	.....	8,584	224	.....	8,694	12	.....	595	10	.....	9,615

TABLE No. IX.—Continued.

Harrison County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre	Bushels.	Acres.	Pounds per Acre.	Po'nds
Harrison.....	874	*1½	1,311	91	*78	7,098	25	*110	2,750	3	*800	2,400
Boone.....	431	1	431	57	*82	4,674	1	*110	110	1	*800	800
Heth.....	397	1½	595	51	100	5,100	1	200	200	2	1,200	3,400
Posey.....	253	1½	379	263	60	15,780	3	40	120	.....	.....	.....
Franklin.....	456	1	456	106	50	5,300	.....	.....	.....	.....	.....	.....
Morgan.....	1,049	*1	1,049	79	*78	6,162	1	*110	110	.....	.....	.....
Blue River....	662	*1	662	39	*78	3,042	2	*110	220	.....	.....	.....
Washington...	52	2	104	128	50	6,400	1	*110	110	.....	.....	.....
Taylor.....	402	1	402	161	100	16,100	1	50	50	2	*800	1,600
Webster.....	215	*1	215	8	*78	624	15	*110	1,650	.....	.....	.....
Jackson.....	531	*1	531	43	*78	3,354	.....	.....	.....	.....	.....	.....
Spencer.....	54	*1	54	.....	.....	.....	.....	.....	.....	.....	.....	.....
Scott.....	367	2	734	28	100	2,800	5	150	750	.....	.....	.....
Total.....	5,743	.....	6,923	1,054	.....	76,434	55	.....	6,070	8	.....	7,200

Hendricks County.

Center.....	1,916	1¼	2,395	27	60	1,620	4	125	500	.....	.....	.....
Washington...	1,086	*1½	1,629	80	*45	3,600	.....	.....	.....	.....	.....	.....
Gniford.....	1,351	1	1,351	87	25	2,175	1	50	50	.....	.....	.....
Liberty.....	1,341	2	2,682	7	50	350	1	*64	64	.....	.....	.....
Franklin.....	989	2	1,978	19	50	950	1	*61	64	.....	.....	.....
Clay.....	861	2	1,722	11	60	660	1	70	70	.....	.....	.....
Marion.....	1,548	1	1,548	6	100	600	2	100	200	.....	.....	.....
Eel River.....	1,148	1	1,148	77	*44	3,388	2	*64	128	.....	.....	.....
Union.....	684	*1½	1,026	73	*45	3,285	1	*64	64	2	.....	.....
Middle.....	1,267	*1½	1,900	240	*45	10,800	2	*64	128	.....	.....	.....
Brown.....	663	1½	994	361	7	2,527	2	20	40	.....	.....	.....
Lincoln.....	1,028	1½	1,542	166	5	830	*1	20	20	.....	.....	.....
Total.....	13,882	.....	19,915	1,154	.....	80,785	18	.....	1,328	2	.....	.....

Henry County.

Wayne.....	772	*1½	1,158	41	*57	2,337	6	*54	324	1	.....	.....
Franklin.....	557	2	1,114	62	60	3,720	1	50	50	.....	.....	.....
Dudley.....	592	1	592	104	25	2,600	2	40	80	.....	.....	.....
Liberty.....	859	*1½	1,288	112	*57	6,384	6	*54	324	7	.....	.....
Henry.....	578	*1½	867	24	*57	1,368	1	*54	54	.....	.....	.....
Greensboro....	316	1½	474	22	30	660	2	30	60	.....	.....	.....
Harrison.....	517	1	517	7	65	455	*1	45	45	.....	.....	.....
Fall Creek.....	639	1	639	15	60	900	.....	.....	.....	.....	.....	.....
Prairie.....	950	1	950	44	25	1,540	*1	40	40	.....	.....	.....
Stony Creek...	379	2	758	12	100	1,200	*1	50	50	.....	.....	.....
Spiceland.....	480	1½	720	62	100	6,200	6	150	900	.....	.....	.....
Jefferson.....	339	2	678	34	50	1,700	.....	.....	.....	.....	.....	.....
Blue River.....	347	1½	520	16	50	800	*1	30	30	.....	.....	.....
Total.....	7,325	.....	10,275	555	.....	29,864	28	.....	1,957	8	.....	.....

TABLE No. IX.—Continued.

Howard County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Po'nds
Center	725	1½	1,085	112	20	2,240	9	100	900	.....	.....	.....
Ervin	939	1½	1,408	38	20	720	1	30	30	.....	.....	.....
Monroe	352	2½	880	22	150	3,300	2	87	174	6	*600	3,600
Clay	310	1	310	28	60	1,680	*1	40	40	.....	.....	.....
Harrison	447	1	447	47	*45	2,115	1	*48	48	.....	.....	.....
Honey Creek..	483	2	966	7	40	280	*1	70	70	.....	.....	.....
Taylor	613	1	613	43	40	1,720	1	12	12	6	500	3,000
Howard	742	1½	1,113	81	30	2,430	.....	.....	.....	.....	.....	.....
Liberty	544	1½	816	39	32	1,248	.....	.....	.....	*1	700	700
Union	432	2	864	21	25	525	*1	20	20	9	*600	5,400
Jackson	280	1	280	25	30	750	1	30	30	.....	.....	.....
Total	5,867	.....	8,782	461	.....	17,008	17	.....	1,304	22	.....	12,700

Huntington County.

Jackson	1,198	1½	1,797	55	40	2,200	½	*66	33	.....	.....	.....
Clear Creek...	1,113	1½	1,669	67	50	3,350	¾	100	75	½	*1,000	500
Warren	900	1½	1,350	53	30	1,590	2	30	60	.....	.....	.....
Dallas	634	1½	951	101	*57	5,757	1½	*66	83	.....	.....	.....
Huntington...	1,532	1½	2,476	158	150	23,700	7½	100	750	4	*1,000	4,000
Union	847	1½	1,069	43	50	2,150	2	35	70	.....	.....	.....
Rock Creek...	1,066	1½	1,332	36	40	1,440	¾	50	37	.....	.....	.....
Lancaster	884	1½	1,326	72	60	4,320	1	80	80	.....	.....	.....
Polk	530	2	1,060	48	75	3,600	.....	.....	.....	2½	1,000	2,333
Wayne	721	1½	1,081	74	50	3,700	¾	*66	17	2	*1,000	2,000
Jefferson	591	1½	885	7	25	175	.....	.....	.....	.....	.....	.....
Salamonie	1,261	*1½	1,891	19	*77	1,463	.....	.....	.....	.....	.....	.....
Huntington c.	119	*1½	178	12	*77	924	2½	*66	165	.....	.....	.....
Total	11,396	.....	17,055	745	.....	54,369	19	.....	1,370	9¼	.....	8,833

Jackson County.

Grassy Fork...	587	*1½	880	19	*57	1,083	.....	.....	.....	.....	.....	.....
Brownstown..	391	1	391	26	75	1,950	1	100	100	.....	.....	.....
Washington...	1,654	? 5	8,270	130	16	2,080	*1	100	100	.....	.....	.....
Jackson	772	1	772	44	100	4,400	5	200	1,000	1	1,000	1,000
Redding	432	1½	648	106	40	4,240	7	30	210	.....	.....	.....
Vernon	1,278	1	1,278	10	40	400	*1	20	20	*1	200	200
Hamilton	595	1	595	82	50	4,100	.....	.....	.....	*1	2,000	2,000
Carr	331	1½	496	33	125	4,125	2	200	400	1	*925	925
Owen	1,314	1	1,314	5	30	150	*1	35	35	.....	.....	.....
Salt Creek	1,889	*1½	2,833	96	*57	5,472	8	*90	720	14	*925	12,950
Seymour c.	47	*1½	70	.....	.....	.....	.....	.....	.....	.....	.....	.....
Driftwood	458	1	458	92	40	3,680	10	30	300	*1	500	500
otal	9,748	.....	18,005	643	.....	31,680	36	.....	1,885	19	.....	17,575

TABLE No. IX.—Continued.

Jasper County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Hanging G'v'e	792	1½	1,188	27	20	540	.....	.....	.....	.....	.....	.....
Gillam.....	535	1½	802	9	30	270	.....	.....	.....	20	.....	.....
Walker.....	32	1¼	40	38	75	2,850	3	*73	219	.....	.....	.....
Barkley.....	.....	.....	.....	27	*44	1,188	.....	.....	.....	.....	.....	.....
Rensselaer t...	90	*1¼	25	1	*44	44	.....	.....	.....	.....	.....	.....
Marion.....	2,370	*1¼	2,962	15	*44	660	1	*73	73	.....	.....	.....
Jordan.....	645	*1¼	806	26	*44	1,144	6	*73	438	.....	.....	.....
Newton.....	1,564	1	1,564	17	50	850	1	*73	73	.....	.....	.....
Keener.....	49	*1¼	61	52	*44	2,288	.....	.....	.....	.....	.....	.....
Kankakee.....	383	1½	575	39	20	780	1	*73	73	.....	.....	.....
Wheatfield.....	125	1	125	7	95	595	.....	.....	.....	.....	.....	.....
Carpenter.....	1,516	1½	2,311	64	30	1,920	.....	.....	.....	2	.....	.....
Remington t...	25	*1¼	32	2	*44	88	.....	.....	.....	.....	.....	.....
Milroy.....	81	1	81	10	25	250	.....	.....	.....	.....	.....	.....
Union.....	49	1½	73	12	*49	588	1	*73	73	3	.....	.....
Total.....	8,186	.....	10,645	346	.....	14,055	13	.....	949	25	.....	.....

Jay County.

Richland.....	700	1½	1,050	6	50	300	*1	60	60	.....	400	.....
Knox.....	668	1½	1,002	3	50	150	3	*62	186	.....	.....	.....
Penn.....	980	1½	1,470	60	40	2,400	3	30	90	.....	.....	.....
Jefferson.....	1,024	1½	1,536	*58	50	2,900	.....	.....	.....	.....	.....	.....
Green.....	821	2	1,642	*58	20	1,160	50	*62	3,100	.....	.....	.....
Jackson.....	574	1½	861	65	50	3,250	*1	60	60	.....	.....	.....
Pike.....	1,101	1	1,101	53	30	1,590	.....	.....	.....	.....	.....	.....
Wayne.....	1,008	*1½	1,512	81	*54	4,374	.....	.....	.....	.....	.....	.....
Bear Creek.....	1,180	1½	1,412	62	75	4,650	*1	100	100	.....	.....	.....
Madison.....	736	*1½	1,104	26	*54	1,404	.....	.....	.....	.....	.....	.....
Noble.....	1,221	1	1,221	102	100	10,200	.....	.....	.....	.....	.....	.....
Wabash.....	594	1½	891	121	75	9,075	.....	.....	.....	.....	.....	.....
Total.....	10,557	.....	14,802	695	.....	41,453	59	.....	3,596	.....	.....	.....

Jefferson County.

Madison.....	2,346	1½	3,519	55	40	2,200	15	50	750	33½	900	30,150
Milton.....	489	1½	733	178	50	8,900	3	*52	156	67½	1,200	80,700
Shelby.....	1,928	1½	2,892	85	20	1,700	3	22	66	31	700	21,700
Lancaster.....	1,622	1¼	2,027	60	50	3,000	1	75	75	.....	.....	.....
Republican....	895	*1½	1,342	56	*60	3,360	17	*52	884	.....	.....	.....
Graham.....	468	2	936	45	80	3,600	¾	63	48	1	*900	900
Saluda.....	1,124	1¼	1,380	34	100	3,400	.....	.....	.....	17	*900	15,300
Hanover.....	432	1½	648	18	80	1,440	.....	.....	.....	1	700	700
Monroe.....	1,250	1½	1,666	76	56¼	4,275	.....	.....	.....	.....	.....	.....
Smyrna.....	1,164	*1½	1,746	49	*60	2,940	3	*52	156	.....	.....	.....
Total.....	11,718	.....	16,809	656	.....	34,815	43	.....	2,135	150¾	.....	149,450

TABLE No. IX.—Continued.

Jennings County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres	Pounds per Acre.	Pounds
Bigger	37	*1	37	3	*60	180	.....	.....	.....	.....	.....	.....
Campbell.....	702	1½	1,053	26	*58	1,508	2	*88	176	4	.....	.....
Columbia	1,020	1½	1,530	7	*58	406	.....	.....	.....	1	.....	.....
Geneva	1,310	*1	1,310	17	*60	1,020	¼	*88	22	.....	.....	.....
Marion.....	1,647	*1	1,647	19	*60	1,140	2	*88	176	2	.....	.....
Montgomery..	714	1	714	7	100	700	1	50	50	.....	.....	.....
Sand Creek....	324	1	324	5	20	100	1	*88	88	.....	.....	.....
Spencer	2,106	1	2,108	99	60	5,940	3	*88	264	.....	.....	.....
Vernon	479	1½	718	54	60	3,240	3	150	450	.....	.....	.....
Center	807	¾	604	28	30	840	9	65	585	1	.....	.....
Lovett	413	1½	619	1	80	80	.....	.....	.....	8	.....	.....
Total.....	9,559	.....	10,662	268	.....	15,154	21¼	.....	1,811	16	.....	.....

Johnson County.

Franklin.....	620	1½	930	16	30	480	2	*48	96	.....	.....	.....
Nineveh.....	870	1½	1,305	45	40	1,800	2	*48	96	7	.....	.....
Blue River	232	*1½	348	36	*44	1,584	.....	.....	.....	.....	.....	.....
Hensley.....	660	2	1,320	11	30	330	1	75	75	.....	.....	.....
Clark	724	1½	1,086	59	100	5,900	*1	75	75	1	.....	.....
Pleasant	852	1	852	83	50	4,150	2	30	60	.....	.....	.....
Union.....	672	1½	1,008	27	15	405	1	10	10	1	.....	.....
White River..	762	*1½	1,128	229	*44	10,076	1	*48	48	.....	.....	.....
Franklin c.....	173	*1½	259	1	*44	44	4	*48	192	.....	.....	.....
Greenwood .....	.....	.....	.....	1	*44	44	.....	.....	.....	.....	.....	.....
Total.....	5,555	.....	7,236	508	.....	24,813	14	.....	652	9	.....	.....

Knox County.

Vlgo	485	*1½	727	120	*52	6,240	10	*93	930	3	.....	.....
Widner	704	1½	1,066	102	*52	5,304	14	*98	1,302	1	.....	.....
Busseron.....	540	*1½	810	76	*52	3,952	17	*93	1,581	2	.....	.....
Washington...	1,120	*1½	1,680	30	*52	1,560	1	*93	93	4	.....	.....
Palmyra	847	*1½	1,270	120	*52	6,240	3	*93	279	2	.....	.....
Vincennes	74	*1½	111	13	*52	678	25	*93	2,325	10	.....	.....
Harrison.....	1,057	2	2,114	305	20	6,100	64	30	1,920	4	.....	.....
Johnson.....	627	1½	940	114	90	10,260	63	150	9,450	1	.....	.....
Decker.....	836	1½	504	43	25	1,075	15	*98	1,395	1	.....	.....
Steen.....	451	1¾	789	31	75	2,325	20	100	2,000	1	.....	.....
Total.....	6,241	.....	10,001	954	.....	43,732	232	.....	21,275	29	.....	.....

TABLE No. IX.—Continued.

Kosciusko County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Po'nds
Jackson.....	787	1½	1,180	130	60	7,800	10	80	800	.....	.....	.....
Monroe	675	1½	1,012	57	40	2,280	1	*183	183	2	.....	.....
Washington...	739	2	1,478	83	100	8,300	1	*183	183	.....	.....	.....
Tippecanoe...	147	2	294	90	30	2,700	2	*183	366	.....	.....	.....
Turkey Creek.	251	1½	376	8	75	600	1	*183	183	.....	.....	.....
Van Buren....	149	1½	223	15	75	1,125	*1	200	200	.....	.....	.....
Plain.....	433	*2	866	26	*91	2,366	1	*183	183	.....	.....	.....
Wayne.....	809	1½	1,213	75	70	5,250	*1	40	40	.....	.....	.....
Clay.....	452	1½	478	74	50	3,700	1	*183	183	.....	.....	.....
Lake.....	381	2	762	23	50	1,150	1	80	80	5	.....	.....
Seward.....	149	1½	223	111	150	16,650	.....	.....	.....	.....	.....	.....
Franklin.....	96	*2	190	24	*91	2,184	.....	.....	.....	.....	.....	.....
Harrison.....	105	2½	262	1	200	200	*1	500	500	.....	.....	.....
Prairie.....	334	*2	668	46	*91	4,186	.....	.....	.....	.....	.....	.....
Jefferson.....	522	*2	1,044	29	*91	2,639	.....	.....	.....	¼	.....	.....
Scott.....	319	*2	638	29	*91	2,639	.....	.....	.....	.....	.....	.....
Etna.....	207	1½	310	53	175	9,275	*1	200	200	.....	.....	.....
Total.....	6,554	.....	11,217	874	.....	73,044	22	.....	8,101	7¼	.....	.....

Lagrange County.

Van Buren	73	1½	109	135	100	13,500	.....	.....	.....	.....	.....	.....
Newbury.....	338	2	676	35	40	1,400	.....	.....	.....	.....	.....	.....
Eden.....	736	2	1,472	35	75	2,625	.....	.....	.....	.....	.....	.....
Clear Spring...	541	1½	816	74	50	3,700	.....	.....	.....	.....	.....	.....
Clay.....	352	1½	528	87	70	6,090	.....	.....	.....	.....	.....	.....
Lima.....	287	*2	574	94	*66	6,204	3	*100	300	.....	.....	.....
Greenfield.....	423	1½	634	19	60	1,140	1	*100	100	.....	.....	.....
Bloomfield.....	439	*2	878	72	*66	4,752	.....	.....	.....	.....	.....	.....
Johnson.....	408	2½	1,020	120	60	7,200	½	*100	50	½	.....	.....
Milford.....	510	2	1,020	48	75	3,600	.....	.....	.....	.....	.....	.....
Springfield	470	1¾	822	41	70	2,870	.....	.....	.....	2	.....	.....
Total.....	4,580	.....	8,549	760	.....	58,081	4½	.....	450	2½	.....	.....

Lake County.

North.....	.....	.....	.....	401	*58	23,258	.....	.....	.....	.....	.....	.....
Ross.....	2,775	1½	4,162	179	50	8,950	.....	.....	.....	.....	.....	.....
St. Johns.....	2,808	*1½	3,510	116	*58	6,728	1	*50	50	.....	.....	.....
Center.....	1,288	1½	1,610	99	*58	5,742	.....	.....	.....	.....	.....	.....
West Creek....	2,438	1½	3,047	110	50	5,500	.....	.....	.....	21	.....	.....
Cedar Creek...	2,464	*1½	3,080	3	*58	174	.....	.....	.....	.....	.....	.....
Eagle Creek...	2,358	1½	2,947	65	75	4,875	75	*50	3,750	.....	.....	.....
Winfield.....	2,166	*1½	2,707	67	*58	3,886	.....	.....	.....	.....	.....	.....
Hobart.....	483	1½	724	240	*58	13,920	*1	50	50	.....	.....	.....
Hanover.....	455	*1½	569	108	*58	6,264	.....	.....	.....	.....	.....	.....
Crown Point..	175	*1¼	219	10	*58	580	.....	.....	.....	.....	.....	.....
Total.....	17,410	.....	22,575	1,398	.....	79,877	77	.....	3,850	21	.....	.....

TABLE No. IX.—Continued.

Laporte County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Po'nds
Hudson	300	1½	450	87	75	2,775	.....	.....	.....	.....	.....	.....
Galena	808	1½	1,204	78	60	4,680	.....	.....	.....	.....	.....	.....
Springfield	521	1	521	90	60	5,400	1	*70	70	.....	.....	.....
Michigan	893	1½	589	48	75	3,600	.....	.....	.....	.....	.....	.....
Cool Spring....	964	*1½	1,446	253	*63	15,939	.....	.....	.....	.....	.....	.....
Center.....	774	1½	1,708	114	75	8,550	4	100	400	.....	.....	.....
Laporte c	365	*1½	547	12	*63	756	.....	.....	.....	.....	.....	.....
Kankakee.....	1,110	*1½	1,665	49	*63	3,067	.....	.....	.....	.....	.....	.....
Wills.....	722	*1½	1,083	143	*63	9,009	.....	.....	.....	.....	.....	.....
Lincoln .....	.....	.....	.....	17	*63	1,061	1	*70	70	.....	.....	.....
Pleasant.....	285	1	285	4	75	300	*1	50	50	.....	.....	.....
Scipio	1,329	*1½	1,993	68	*63	4,284	.....	.....	.....	.....	.....	.....
New Durham..	652	1½	978	85	75	6,375	.....	.....	.....	.....	.....	.....
Westville &....	73	*1½	109	2	*63	126	.....	.....	.....	.....	.....	.....
Clinton.....	298	1½	447	156	*61	9,516	*1	80	80	.....	.....	.....
Noble	577	*1½	865	49	*63	3,087	.....	.....	.....	.....	.....	.....
Union.....	489	1½	658	3,793	90	113,790	1	*70	70	.....	.....	.....
Johnson	50	1½	75	88	75	6,600	102	100	10,200	.....	.....	.....
Hanna	63	2	126	43	40	1,720	.....	.....	.....	1	100	100
Cass.....	76	*1½	114	409	*63	25,767	6	*70	420	.....	.....	.....
Dewey.....	250	1¼	312	61	60	3,660	100	*70	7,000	.....	.....	.....
Total.....	10,044	.....	15,135	5,599	.....	230,182	217	.....	18,310	1	.....	100

Lawrence County.

Flinn	1,238	2	2,476	28	40	1,120	1	35	35	*1	200	200
Pleasant Run.	1,015	2	2,030	17	80	1,360	*1	50	50	.....	.....	.....
Perry	1,313	? 7	9,191	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indian Creek..	1,449	*2	2,898	4	*103	412	.....	.....	.....	.....	.....	.....
Spice Valley...	660	*2	1,320	39	*103	4,017	3	*55	165	9	*200	1,800
Marion.....	1,920	*2	3,840	43	*103	4,429	10	*55	550	1	*200	.....
Bono.....	706	*2	1,412	12	*103	1,236	5	*55	275	9	*200	1,800
Shawswick	1,745	1	1,745	20	250	5,000	.....	.....	.....	6	*200	1,200
Marshall.....	927	*2	1,854	9	*103	927	.....	.....	.....	1	*200	200
Guthrie	10	2	20	34	45	1,530	*1	80	80	.....	.....	.....
Total.....	10,983	.....	25,786	206	.....	20,031	21	.....	1,155	27	.....	5,400

TABLE No. IX.—Continued.

Madison County.

Townships.	Meadow and Hay.			Irish Potatoes			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Anderson	879	2	1,758	14	40	560	2	*40	80	.....	.....	.....
Adams	609	1½	913	19	40	760	1	50	50	.....	.....	.....
Boone	554	*1½	831	33	*33	1,089	.....	.....	.....	.....	.....	.....
Duck Creek....	377	1	377	46	25	1,150	500	*40	20,000	15½	.....	.....
Fall Creek.....	1,049	1½	1,573	35	70	2,450	.....	.....	.....	6	.....	.....
Green	498	1½	747	3	40	120	.....	.....	.....	2½	.....	.....
Jackson	448	*1½	672	30	*33	990	2	*40	80	.....	.....	.....
Lafayette	329	1½	493	37	15	555	*1	30	30	.....	.....	.....
Monroe	855	*1½	1,282	9	*33	297	.....	.....	.....	.....	.....	.....
Pipe Creek....	740	*1½	1,110	12	*33	396	2	*40	80	.....	.....	.....
Richland	532	*1½	798	35	*33	1,155	1	*40	40	1	.....	.....
Stony Creek...	560	1¼	700	37	15	555	2	*40	80	.....	.....	.....
Union	465	*1½	697	30	*33	990	.....	.....	.....	.....	.....	.....
Van Buren....	501	1	501	11	20	220	1	*40	40	.....	.....	.....
Total	8,396	.....	12,452	351	.....	11,287	512	.....	20,480	25	.....	.....

Marion County.

Indianapolis c	70	*1½	105	26	*25	650	.....	.....	.....	.....	.....	.....
Center	769	*1½	1,133	136	*25	3,400	324	*122	39,523	6	.....	.....
Decatur	950	*1½	1,425	151	*25	3,775	18	*122	2,196	.....	.....	.....
Franklin	1,615	1½	2,422	56	15	840	1	100	100	.....	.....	.....
Lawrence	1,230	1	1,230	49	*27	1,323	2	200	400	.....	1,200	.....
Perry	2,336	1¼	2,920	293	25	6,325	9	125	1,125	5	.....	.....
Pike	1,986	1½	2,979	539	12	6,468	.....	.....	.....	.....	.....	.....
Warren	2,703	1½	4,054	134	40	5,360	½	*122	61	.....	.....	.....
Washington...	1,462	1½	2,193	401	30	12,030	18	75	1,350	.....	.....	.....
Wayne	2,620	*1½	3,930	652	*25	16,300	138	*122	16,836	18	.....	.....
Total	15,741	.....	22,391	2,437	.....	56,471	510½	.....	61,596	29	.....	.....

Marshall County.

Union	275	1½	412	49	60	2,940	1	100	100	.....	.....	.....
Center	783	1½	939	194	160	31,040	6	60	360	½	.....	.....
Green ..	1,942	2	3,884	88	50	4,400	6	100	600	2	.....	.....
Bourbon	683	*2	1,366	121	*92	11,132	3	*86	258	.....	.....	.....
Tippecanoe	522	2½	1,105	34	50	1,700	48	*86	4,128	.....	.....	.....
German	394	2	788	74	120	8,880	2	*86	172	¾	.....	.....
North	396	*2	792	81	*80	6,480	.....	.....	.....	.....	.....	.....
Polk	460	*2	920	138	*92	12,696	1	*86	86	¼	.....	.....
West	258	2	516	141	125	17,625	1	*86	86	.....	.....	.....
Walnut	455	*2	910	35	*92	3,220	.....	.....	.....	.....	.....	.....
Plymouth c ...	6	*2	12	3	*92	276	.....	.....	.....	.....	.....	.....
Total	6,174	.....	11,644	958	.....	100,389	68	.....	5,790	6½	.....	.....

TABLE No. IX.—Continued.

Martin County.

Townships.	Meadow and Hay.			Irish Potatoes			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Baker.....	671	1½	1 006	*25	30	750	.....	.....	.....	.....	.....	.....
McCameron...	898	1	898	*25	40	1,000	*1	50	50	*1	600	600
Brown.....	304	1	304	2	*45	90	.....	.....	.....	.....	.....	.....
Mitcheltree ...	590	1½	885	13	40	520	1	50	50	1	*200	200
Halbert	525	2	1,056	27	50	1,350	1	50	50	.....	.....	.....
Center.....	728	2	1,456	57	40	2,280	1	50	50	2	600	1,200
Perry	1,140	2	2,280	3	50	150	*1	20	20	2	500	1,000
Rutherford....	336	1½	504	38	50	1,900	*1	25	25	9	*500	4,500
Columbia.....	682	2	1,364	23	50	1,150	.....	.....	.....	1	*500	500
Lost River.....	374	¾	280	87	50	1,850	2	60	120	4	*500	2,000
Total.....	6,251	.....	10,033	250	.....	11,040	8	.....	365	20	.....	10,000

Miami County.

Pern.....	442	*1½	663	40	*58	2,320	.....	.....	.....	.....	.....	.....
Jefferson.....	767	1½	1,150	43	80	3,440	79	40	3,160	.....	.....	.....
Perry	627	1½	940	120	25	3,000	.....	.....	.....	.....	.....	.....
Union	485	2	970	11	30	330	.....	.....	.....	.....	.....	.....
Richland.....	704	1½	1,056	184	75	13,800	.....	.....	.....	.....	.....	.....
Erie.....	344	1½	516	10	50	500	*1	75	75	.....	.....	.....
Butler.....	765	*1½	1,147	21	*58	1,218	.....	.....	.....	.....	.....	.....
Washington...	825	1½	1,237	60	*58	3,480	.....	.....	.....	.....	.....	.....
Pope Creek....	498	1½	747	56	100	5,600	*1	200	200	.....	.....	.....
Deer Creek....	487	2	974	*1	50	50	*1	150	150	.....	.....	.....
Clay.....	543	2	1,086	13	75	975	.....	.....	.....	.....	.....	.....
Harrison	605	1½	905	60	40	2,400	.....	.....	.....	.....	.....	.....
Jackson.....	576	1¼	720	57	7	399	1	*116	116	.....	.....	.....
Allen.....	802	2	604	87	100	8,700	.....	.....	.....	.....	.....	.....
Total.....	7,970	....	12,715	763	.....	46,212	83	.....	3,701	.....	.....	.....

Montgomery County.

Coal Creek.....	1,044	1½	1,566	33	150	4,950	*1	200	200	.....	.....	.....
Wayne.....	1,249	2	2,498	79	*55	4,345	3	*107	321	.....	.....	.....
Ripley.....	635	2	1,270	32	75	2,370	.....	.....	.....	.....	.....	.....
Brown.....	1,300	1½	1,950	48	50	2,400	2	60	120	.....	.....	.....
Scott.....	866	2	1,732	5	50	250	*1	100	100	.....	.....	.....
Union.....	3,243	1½	4,864	186	100	18,600	25	100	2,500	4	*1,000	4,000
Madison.....	1,075	2	2,150	53	*55	2,915	*1	200	200	.....	.....	.....
Sugar Creek...	900	3	2,700	15	30	450	*1	40	40	.....	.....	.....
Franklin	1,035	1¼	1,293	31	75	2,325	4	50	200	*1	1,000	1,000
Walnut	1,104	2	2,208	20	*55	1,100	.....	.....	.....	.....	.....	.....
Clark	955	2	1,910	4	50	200	.....	.....	.....	.....	.....	.....
Total.....	13,406	.....	24,141	506	.....	39,905	88	.....	3,681	5	.....	5,000

TABLE No. IX.—Continued.

Monroe County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Bean Blossom.	1,063	1	1,063	8	100	800	*1	75	75	1	800	800
Washington...	806	2	1,612	*16	30	480	*1	25	25	*1	600	600
Marion.....	242	1½	322	2	50	100	.....	.....	.....	.....	.....	.....
Benton.....	1,389	2	2,778	27	50	1,350	.....	.....	.....	.....	.....	.....
Bloomington..	1,126	*1½	1,689	24	*53	1,272	8	*77	231	2	*634	1,268
Richland.....	1,701	2	3,402	9	50	450	5	*77	385	.....	.....	.....
Van Buren....	995	1	995	22	75	1,650	.....	.....	.....	5	500	2,500
Perry	1,613	1½	2,419	32	40	1,280	1	*77	77	.....	.....	.....
Salt Creek.....	552	*1½	828	7	*53	371	.....	.....	.....	1	*634	634
Polk.....	409	¾	204	15	66	990	*1	200	200	.....	.....	.....
Clear Creek....	620	2	1,240	26	15	390	4	10	40	.....	.....	.....
Indian Creek..	1,396	2	2,792	5	*53	265	.....	.....	.....	1	*634	634
Total.....	11,912	.....	19,346	193	.....	9,398	16	.....	1,033	11	.....	6,436

Morgan County.

Washington...	965	1½	1,477	40	35	1,400	3	40	120	.....	.....	.....
Jackson.....	939	1½	1,408	2	60	120	.....	.....	.....	.....	.....	.....
Green	790	1½	1,185	25	*67	1,675	.....	.....	.....	.....	.....	.....
Harrison.....	168	*1½	252	12	*67	804	.....	.....	.....	.....	.....	.....
Madison	715	1	715	22	75	1,650	1	*40	40	.....	700	.....
Clay.....	481	*1½	721	7	*67	469	.....	.....	.....	¾	.....	.....
Brown	690	*1½	1,035	21	*67	1,407	.....	.....	.....	.....	.....	.....
Monroe	763	*1½	1,144	32	*67	2,114	1	*40	40	.....	.....	.....
Adams.....	913	*1½	1,369	28	*67	1,876	¾	*40	10	1	.....	.....
Gregg.....	640	*1½	960	29	*67	1,913	2	*40	80	1	.....	.....
Jefferson	690	*1½	1,035	14	*67	938	.....	.....	.....	.....	.....	.....
Ray.....	529	*1½	793	1	*67	67	.....	.....	.....	.....	.....	.....
Baker.....	144	2	288	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ashland.....	595	1	595	*19	100	1,900	.....	.....	.....	.....	.....	.....
Total.....	9,042	.....	12,977	252	.....	15,393	7¼	.....	290	2½	.....	.....

Newton County.

Iroquois.....	1,013	1¼	1,266	73	25	1,825	.....	.....	.....	.....	.....	.....
Jackson.....	1,891	*1½	2,086	37	*67	2,479	4	*38	152	.....	.....	.....
Lake.....	1,045	*1½	1,567	27	*67	1,809	.....	.....	.....	.....	.....	.....
Beaver	982	2	1,964	39	50	1,950	*1	25	25	5	.....	.....
Washington...	1,209	1½	1,813	*32	28	896	.....	.....	.....	.....	.....	.....
Jefferson.....	825	1½	1,237	29	50	1,450	*1	50	50	.....	.....	.....
McClelland..	232	*1½	348	10	*67	670	1	*38	38	.....	.....	.....
Grant.....	940	1½	1,410	*32	50	1,600	.....	.....	.....	.....	.....	.....
Colfax.....	10	*1½	15	5	*67	335	.....	.....	.....	.....	.....	.....
Lincoln.....	340	1½	510	33	200	6,600	.....	.....	.....	.....	.....	.....
Total.....	7,987	.....	12,216	317	.....	19,614	7	.....	265	5	.....	.....

TABLE No. IX.—Continued.

Noble County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Washington...	179	2	358	36	*40	1,440	.....	.....	.....	.....	.....	.....
Sparta.....	606	*1½	909	92	*40	3,680	1	*146	146	1	.....	.....
Perry	806	*1½	1,209	75	*40	3,000	1	*146	146	.....	.....	.....
Elkhart.....	713	*1½	1,069	74	*40	2,960	.....	.....	.....	.....	.....	.....
York.....	459	2	918	93	30	2,790	.....	.....	.....	1	.....	.....
Noble	287	2¼	646	85	20	1,700	¾	*146	110	.....	.....	.....
Green	690	1½	1,035	62	*40	2,480	1	*146	146	.....	.....	.....
Jefferson.....	1,187	*1½	1,780	114	*40	4,560	.....	.....	.....	.....	.....	.....
Orange.....	1,022	1½	1,533	102	50	5,100	2	*146	292	½	.....	.....
Wayne.....	738	1	738	179	25	4,475	.....	.....	.....	.....	.....	.....
Allen	1,427	1½	2,140	75	80	6,000	.....	.....	.....	.....	.....	.....
Swan.....	829	2	1,658	108	25	2,700	.....	.....	.....	.....	.....	.....
Kendallville t.	.....	.....	.....	20	*40	800	12	*146	1,756	.....	.....	.....
Total.....	8,943	.....	13,993	1,115	.....	41,685	17¾	.....	2,596	2½	.....	.....

Ohio County.

Randolph	1,867	1½	2,800	990	55	54,450	12	*18	216	4	.....	.....
Union.....	440	1	440	117	50	5,850	.....	.....	.....	.....	.....	.....
Cass.....	742	1	742	101	*43	4,343	1	18	18	1	.....	.....
Pike.....	648	¾	486	96	25	2,400	.....	.....	.....	8	.....	.....
Total.....	3,697	.....	4,468	1,304	.....	67,043	13	.....	234	13	.....	.....

Orange County.

Paoli.....	1,689	*1½	2,538	9	86	774	.....	.....	.....	.....	.....	.....
Northeast.....	525	1	525	*7	50	350	*1	50	50	.....	.....	.....
Orleans.....	341	2	682	*7	20	140	*1	10	10	*1	500	500
Orangeville....	492	1½	615	6	150	900	.....	.....	.....	4	*833	3,332
Northwest.....	899	1½	598	24	55	1,320	2	*82	164	14	*833	4,165
French Lick....	327	1½	490	4	100	400	*1	150	150	8	1,000	8,000
Jackson.....	208	2	406	5	75	375	*1	90	90	13	1,000	13,000
Greenfield.....	121	1	121	4	100	400	1	100	100	17	1,000	17,000
Southeast	682	1	682	4	100	400	*1	100	100	7	1,000	7,000
Stampers Cr'k	446	1½	669	3	120	360	*1	75	75	15	500	7,500
Total.....	5,225	.....	7,821	73	.....	5,419	9	.....	739	78	.....	60,497

TABLE No. IX.—Continued.

Owen County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Wayne.....	947	*1 $\frac{1}{2}$	1,420	9	*36	324	$\frac{1}{8}$	*40	5	.....	.....	.....
Montgomery..	911	1 $\frac{1}{2}$	1,366	3	30	90	20	75	1,500	.....	.....	.....
Washington...	1,190	2	2,380	23	50	1,150	3	50	150	1	*700	700
Morgan.....	1,805	*1 $\frac{1}{2}$	2,707	11	*36	396	.....	.....	.....	.....	.....	.....
Jackson.....	781	2	1,562	39	10	390	*1	25	25	*1	500	500
Harrison.....	613	1	613	5	35	175	.....	.....	.....	.....	.....	.....
Clay.....	1,425	1	1,425	6	*36	216	.....	.....	.....	.....	.....	.....
Franklin.....	1,176	1 $\frac{1}{4}$	1,445	6	75	450	.....	.....	.....	*1	600	600
Jefferson.....	2,101	2	4,202	54	40	2,160	2	40	80	2	*700	1,400
Marion.....	2,123	1 $\frac{1}{4}$	2,653	31	30	930	*1	30	30	.....	.....	.....
Lafayette.....	720	1 $\frac{1}{2}$	1,080	4	30	120	*1	20	20	.....	.....	.....
Jennings.....	491	1	491	*16	35	560	.....	.....	.....	*1	1,000	1,000
Taylor.....	1,024	1	1,024	7	30	210	.....	.....	.....	.....	.....	.....
Total.....	15,307	.....	22,368	214	.....	7,171	28 $\frac{1}{8}$	.....	1,810	6	.....	4,200

Parke County.

Adams.....	1,275	*1 $\frac{1}{2}$	1,912	57	*52	2,964	1	*75	75	.....	.....	.....
Washington...	1,012	3	3,036	21	100	2,100	1	*75	75	.....	.....	.....
Sugar Creek...	435	1	435	5	40	200	.....	.....	.....	.....	.....	.....
Liberty.....	1,001	1	1,001	29	*52	1,508	.....	.....	.....	1	.....	.....
Reserve.....	583	1 $\frac{1}{2}$	874	16	50	800	.....	.....	.....	.....	.....	.....
Wabash.....	419	1 $\frac{1}{2}$	628	18	50	900	.....	.....	.....	.....	.....	.....
Florida.....	884	1 $\frac{1}{2}$	1,112	76	30	4,380	4	*75	300	5	.....	.....
Raccoon.....	413	1 $\frac{1}{2}$	619	15	45	675	1	*75	75	.....	.....	.....
Jackson.....	976	1 $\frac{1}{2}$	1,464	15	50	750	.....	.....	.....	3	.....	.....
Union.....	855	*1 $\frac{1}{2}$	1,282	4	*52	208	2	*75	150	.....	.....	.....
Greene.....	1,031	2	2,062	17	100	1,700	*1	75	75	.....	.....	.....
Penn.....	750	1 $\frac{1}{2}$	1,125	30	*52	1,560	10	*75	750	.....	.....	.....
Howard.....	480	*1 $\frac{1}{2}$	726	11	*52	572	.....	.....	.....	.....	.....	.....
Total.....	10,064	.....	16,270	314	.....	18,317	20	.....	1,500	9	.....	.....

Perry County.

Troy.....	556	1	709	174	20	3,480	2	100	200	31	*900	27,900
Tell City t.....	153	*1 $\frac{1}{2}$	229	22	*52	1,144	.....	.....	.....	.....	.....	.....
Anderson.....	439	*1 $\frac{1}{2}$	658	111	*52	5,772	12	*122	1,464	12	*900	10,800
Clark.....	173	2	346	57	50	2,850	*1	70	70	87	1,000	87,000
Tobin.....	824	1 $\frac{1}{2}$	1,236	525	75	39,375	*1	150	150	127	700	88,900
Union.....	587	1 $\frac{1}{2}$	880	139	18	2,502	*1	40	40	12	*900	10,800
Oil.....	800	1	800	105	*52	5,460	.....	.....	.....	4	*900	3,600
Leopold.....	575	2	1,150	76	100	7,600	*1	250	250	*1	1,000	1,000
Total.....	4,107	.....	6,008	1,209	.....	68,183	18	.....	2,174	274	.....	230,000

TABLE No. IX.—Continued.

Pike County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Po'nds
Jefferson.....	1,540	1½	2,310	56	30	1,680	.....	.....	.....	.....	.....	.....
Washington...	1,262	1½	1,893	19	25	475	10	50	500	4	*650	2,600
Madison	352	1	352	24	50	1,200	1	60	60	1	*650	650
Clay	460	3	1,380	40	50	2,000	1	*52	52	1	*650	650
Patoka	303	2	606	23	50	1,150	1	75	75	123	800	98,400
Monroe	858	1	858	43	40	1,720	3	50	150	629	500	314,500
Logan	284	2	568	8	50	400	*1	50	50	3	1,000	3,000
Lockhart.....	721	1½	1,081	104	20	2,080	14	30	420	234	300	88,200
Marion.....	464	*1½	696	23	*40	920	1	*52	52	22	*650	14,300
Total.....	6,244	.....	9,744	340	.....	11,625	32	.....	1,359	1,077	.....	522,300

Porter County.

Center.....	905	1½	1,357	93	*80	7,440	1	75	75	.....	.....	.....
Union.....	1,158	*1½	1,737	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington...	513	*1½	769	27	*80	19,920	27	*75	2,025	.....	.....	.....
Jackson.....	553	1½	829	96	100	9,600	.....	.....	.....	.....	.....	.....
Liberty	390	2	780	239	27	5,975	.....	.....	.....	.....	.....	.....
Portage	1,334	2	2,668	538	30	16,140	6	*75	450	.....	.....	.....
Westchester...	603	1½	904	226	60	13,660	.....	.....	.....	.....	.....	.....
Pleasant.....	383	1½	574	.....	150	11,850	1	*75	75	44	.....	.....
Porter.....	932	1	932	*221	100	22,100	.....	.....	.....	.....	.....	.....
Boone.....	1,370	1	1,370	*221	50	11,050	.....	.....	.....	.....	.....	.....
Morgan	1,296	2	2,592	339	125	42,375	.....	.....	.....	.....	.....	.....
Pine.....	557	*1½	835	136	*80	10,880	.....	.....	.....	.....	.....	.....
Total.....	9,994	.....	15,347	2,437	.....	170,890	35	.....	2,625	44	.....	.....

Posey County.

Black	927	2	1,854	143	123	17,875	6	100	600	5	.....	.....
Lynn	538	1	538	54	*50	2,700	1	50	50	2	.....	.....
Point	143	2	286	43	*50	2,150	.....	.....	.....	1	.....	.....
Harmony	427	*1½	640	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bobb	425	1½	637	.....	.....	.....	.....	.....	.....	4	.....	.....
Marrs	650	*1½	975	152	*112	17,024	3	*75	225	.....	.....	.....
Robinson	519	*1½	778	101	*112	11,312	.....	.....	.....	.....	.....	.....
Smith.....	353	*1½	529	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bethel.....	112	*1½	168	16	*112	1,792	8	*75	600	2	.....	.....
Center.....	313	1½	469	18	100	1,800	*1	75	75	.....	.....	.....
Total.....	4,407	.....	6,874	527	.....	54,653	19	.....	1,650	14	.....	.....

TABLE No. IX.—Continued.

Pulaski County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Po'nds
Monroe.....	301	2	602	28	60	1,680	*1	100	100	.....	.....	.....
Beaver.....	142	*2	284	61	*57	3,477	2	*62	124	1	*450	450
Tippecanoe....	384	*2	768	25	*57	1,325	.....	.....	.....	.....	.....	.....
Harrison.....	293	1½	439	52	20	1,040	*1	30	30	.....	.....	.....
White Post....	242	2	484	43	40	1,720	.....	.....	.....	.....	.....	.....
VanBuren.....	312	*2	624	71	*57	4,047	3	*62	186	7	*450	3,150
Indian Creek..	142	1½	213	13	50	650	.....	.....	.....	.....	.....	.....
Salem.....	885	2	1,770	35	60	2,100	.....	.....	.....	.....	.....	.....
Cass.....	200	1½	300	145	100	14,500	.....	.....	.....	*1	800	800
Jefferson.....	9	2	18	11	25	275	*1	30	30	.....	.....	.....
Rich Grove....	63	2	126	74	80	5,920	*1	75	75	*1	100	100
Franklin.....	35	2	70	39	75	2,925	*1	75	75	.....	.....	.....
Total.....	3,008	.....	5,698	597	.....	39,639	10	.....	620	10	.....	4,500

Putnam County.

Jackson.....	944	1	944	3	*68	204	.....	.....	.....	.....	.....	.....
Franklin.....	776	1½	1,164	*16	125	2,000	*1	75	75	*1	500	500
Russel.....	224	1½	336	16	35	560	2	30	60	.....	.....	.....
Clinton.....	1,269	1½	1,903	3	50	150	.....	.....	.....	.....	.....	.....
Monroe.....	1,353	1½	2,029	9	50	450	*1	50	50	.....	.....	.....
Floyd.....	969	1	969	39	50	1,950	*1	50	50	1	*450	450
Madison.....	912	2	1,824	13	175	2,275	*1	160	160	.....	.....	.....
Greencastle...	1,080	2	2,160	12	10	120	*1	7	7	.....	.....	.....
Marion.....	1,559	1½	2,338	60	75	4,500	*1	125	125	24	*450	10,800
Washington...	168	*1½	252	1	*68	68	4	*60	240	.....	.....	.....
Cloverdale.....	1,551	1½	2,326	38	50	1,900	.....	.....	.....	.....	.....	.....
Warren.....	1,123	1½	1,684	3	5	15	*1	50	50	*1	400	400
Jefferson.....	1,085	2	2,170	2	20	40	*1	20	20	.....	.....	.....
Mill Creek.....	526	1	526	15	25	375	1	35	35	.....	.....	.....
Total.....	13,539	.....	20,625	230	.....	14,607	15	.....	872	27	.....	12,150

Randolph County.

White River...	1,234	*2	2,468	73	37	2,701	17	*35	595	.....	.....	.....
Washington...	921	1	921	113	40	4,520	2	50	100	*1	1,800	1,800
Green's Fork..	589	2	1,178	86	50	1,800	2	*35	70	.....	.....	.....
Stony Creek...	903	2	1,806	12	50	600	1	*35	35	.....	.....	.....
Nettle Creek...	605	*2	1,210	10	*37	370	.....	.....	.....	.....	.....	.....
West River....	803	4	3,212	38	20	760	*1	35	35	.....	.....	.....
Green.....	847	1½	1,270	6	*37	222	.....	.....	.....	.....	.....	.....
Ward.....	859	1½	429	113	50	5,650	1	*35	35	*1	500	500
Jackson.....	522	*2	1,044	132	*37	4,884	1	*35	35	6	*1,150	6,900
Wayne.....	539	2	1,078	102	30	3,060	1	20	20	13	*1,150	14,950
Monroe.....	952	1	952	17	20	340	.....	.....	.....	.....	.....	.....
Franklin.....	576	*2	1,152	15	*37	555	8	*35	105	.....	.....	.....
Winchester t..	.....	.....	.....	3	*37	111	.....	.....	.....	.....	.....	.....
Total.....	9,350	.....	16,720	670	.....	25,573	29	.....	1,030	21	.....	24,150

TABLE No. IX.—Continued.

Ripley County

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bush-els.	Acres	Pounds per Acre.	Po'nds
Johnson.....	2,307	1	2,307	86	150	5,400	3	*20	60	5	.....	.....
Washington...	1,920	*1 1/2	2,880	4	*54	214	.....	.....	.....	.....	.....	.....
Brown.....	1,850	1 1/2	2,775	32	*54	1,728	.....	.....	.....	3	.....	.....
Franklin.....	1,083	1 1/2	1,218	251	80	7,530	.....	.....	.....	.....	.....	.....
Shelby.....	207	1 1/2	310	232	*54	12,528	*1	11	11	.....	.....	.....
Otter Creek...	1,425	1	1,425	7	30	210	.....	.....	.....	.....	.....	.....
Jackson.....	1,812	1 1/2	2,718	113	15	1,770	*1	15	15	.....	.....	.....
Adams.....	2,389	1 1/2	2,986	280	20	5,600	.....	.....	.....	.....	.....	.....
Laughery.....	1,080	*1 1/2	1,620	165	*54	8,910	.....	.....	.....	.....	.....	.....
Delaware.....	1,779	*1 1/2	2,668	197	*54	10,638	.....	.....	.....	.....	.....	.....
Center.....	1,541	1 1/2	2,311	40	40	1,600	1	35	35	.....	.....	.....
Total.....	17,393	.....	23,218	1,362	.....	56,122	6	.....	121	8	.....	.....

Rush County.

Ripley.....	738	1 1/2	1,107	94	50	4,700	32	45	1,440	1	.....	.....
Posey.....	605	3	1,815	45	60	2,700	.....	.....	.....	.....	.....	.....
Walker.....	609	*1 1/2	913	2	*80	160	.....	.....	.....	.....	.....	.....
Orange.....	515	*1 1/2	772	.....	.....	.....	.....	.....	.....	.....	.....	.....
Anderson.....	784	*1 1/2	1,176	88	*80	3,040	.....	.....	.....	2	.....	.....
Rushville.....	881	1 1/2	1,321	261	100	26,100	4	100	400	.....	.....	.....
Jackson.....	407	1 1/2	610	18	100	1,800	*1	150	150	.....	.....	.....
Center.....	824	1 1/2	1,236	21	50	1,050	1	*98	98	.....	.....	.....
Washington...	425	*1 1/2	637	12	*80	960	.....	.....	.....	.....	.....	.....
Union.....	778	*1 1/2	1,167	53	*80	4,240	1	*98	98	1	.....	.....
Noble.....	716	1	716	39	125	4,875	.....	.....	.....	.....	.....	.....
Richland.....	829	*1 1/2	1,243	60	*80	4,800	4	*98	392	9	.....	.....
Total.....	8,111	.....	12,713	643	.....	54,425	43	.....	2,578	18	.....	.....

Scott County.

Jennings.....	815	1 1/4	1,018	45	20	900	9	*40	360	3	.....	.....
Johnson.....	563	1 1/4	844	8	40	320	1	40	40	2	.....	.....
Lexington.....	1,102	*1 1/4	1,377	80	*52	4,160	19	*40	760	16	.....	.....
Finley.....	162	1	162	9	60	540	3	*40	120	.....	.....	.....
Vienna.....	1,109	1 1/2	1,663	4	90	360	.....	.....	.....	.....	.....	.....
Total.....	3,751	.....	5,064	149	.....	6,280	28	.....	1,280	21	.....	.....

TABLE No. IX.—Continued.

Shelby County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Po'nds
Jackson.....	227	1½	340	19	60	1,140	4	80	320	2	*1,266	2,532
Washington...	453	2	906	24	*84	2,016	1	*84	84	.....	.....	.....
Noble.....	310	*1½	478	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liberty	403	2½	1,007	10	90	900	.....	.....	.....	.....	.....	.....
Addison.....	802	1½	1,366	80	140	11,200	1	125	125	*1	1,000	1,000
Hendricks.....	295	*1½	442	8	*84	4,872	.....	.....	.....	.....	.....	.....
Sugar Creek...	335	*1½	502	64	*84	5,376	1	*84	84	19	*1,266	24,054
Brandywine...	396	*1½	726	54	*84	4,536	1	*84	84	32	*1,266	40,512
Marion.....	372	2	744	8	100	800	*1	75	75	*1	2,000	4,000
Union.....	211	1¼	263	22	66	1,452	1	79	79	.....	.....	.....
Hanover	530	*1½	750	6	*84	504	5	*84	420	.....	.....	.....
VanBuren.....	590	1½	885	46	50	2,300	*1	60	60	*1	800	800
Moral.....	608	*1½	912	78	*84	6,552	1	*84	84	1	*1,266	1,266
Shelbyville c...	109	*1½	163	2	*84	168	.....	.....	.....	.....	.....	.....
Total.....	5,620	.....	9,484	471	.....	41,816	17	.....	1,415	57	.....	74,164

Spencer County.

Luce.....	533	1½	790	244	90	21,960	*1	80	80	.....	900	.....
Ohio	1,075	¾	807	552	75	41,400	14	150	2,100	.....	800	.....
Rockport.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hammond.....	1,206	*1½	1,809	391	*47	18,377	43	*72	3,096	.....	.....	.....
Grandview .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Huff.....	608	1½	912	152	15	2,280	1	25	25	.....	500	.....
Harrison.....	253	*1½	379	230	*47	10,810	3	*72	216	.....	.....	.....
Carter.....	894	*1½	1,341	209	*47	9,823	9	*72	648	.....	.....	.....
Jackson.....	486	1	486	93	10	930	.....	.....	.....	.....	700	.....
Grass	1,028	2	2,076	394	50	19,700	25	75	1,875	.....	500	.....
Clay	1,245	1	1,245	200	30	6,000	39	30	1,170	.....	450	.....
Total.....	7,338	.....	9,854	2,465	.....	131,280	135	.....	9,210	.....	.....	.....

Starke County.

North Bend...	135	2	270	5	100	500	1	*115	115	1	.....	.....
Washington...	83	*1½	124	1	*77	77	.....	.....	.....	.....	.....	.....
Oregon.....	140	*1½	210	56	*77	4,312	1	*115	115	.....	.....	.....
California.....	18	*1½	27	42	*77	3,234	1	*115	115	.....	.....	.....
Center.....	186	*1½	204	47	100	4,700	2	200	400	1	.....	.....
Wayne.....	22	*1½	33	68	100	6,800	1	*115	115	.....	.....	.....
Railroad.....	55	1½	82	37	50	1,850	2	*115	230	.....	.....	.....
Davis	73	1½	110	11	40	440	1	30	30	.....	.....	.....
Jackson.....	83	*1½	124	6	75	450	3	*115	345	.....	.....	.....
Total.....	745	.....	1,184	273	.....	22,363	12	.....	1,465	2	.....	.....

TABLE No. IX.—Continued.

Steuben County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Mill Grove.....	261	1 1/2	348	15	80	1,200	.....	.....	.....	.....	.....	.....
Jamestown....	264	1 1/2	396	35	80	1,050	.....	.....	.....	.....	.....	.....
Fremont.....	655	1 1/2	982	91	50	4,550	.....	.....	.....	.....	.....	.....
Clear Lake....	818	1 1/2	477	40	75	3,000	.....	.....	.....	.....	.....	.....
York.....	857	*1 1/2	1,285	103	*58	5,974	.....	.....	.....	.....	.....	.....
Scott.....	749	2	1,498	106	12	1,272	.....	.....	.....	.....	.....	.....
Pleasant.....	594	*1 1/2	891	55	*58	3,190	1	*71	71	.....	.....	.....
Jackson.....	729	1 1/2	1,093	65	100	6,500	.....	.....	.....	.....	.....	.....
Salem.....	584	2	1,168	103	40	4,120	.....	.....	.....	.....	.....	.....
Steuben.....	507	1 1/2	760	136	80	10,880	.....	.....	.....	.....	.....	.....
Otsego.....	887	1 1/4	1,109	124	82	10,188	*1	88	88	.....	.....	.....
Richland.....	461	2	922	76	35	2,660	*1	55	55	.....	.....	.....
Total.....	6,866	.....	10,929	959	.....	54,564	3	.....	214	.....	.....	.....

St. Joseph County.

Olive.....	540	2	1,080	64	50	3,200	1	*117	117	.....	.....	.....
Warren.....	213	1 1/2	319	112	75	8,400	.....	.....	.....	1	.....	.....
German.....	563	1 1/2	844	46	91	4,186	2	162	324	.....	.....	.....
Clay.....	341	2	682	126	80	10,080	*1	150	150	.....	.....	.....
Harris.....	808	2	1,616	100	90	9,000	.....	.....	.....	.....	.....	.....
Penn.....	1,321	2	3,012	254	60	15,240	2	*117	234	.....	.....	.....
Portage.....	522	2	1,076	64	150	9,600	1	*117	117	1	.....	.....
Center.....	422	2	844	46	75	3,450	1	*117	117	.....	.....	.....
Greene.....	276	2	552	35	50	1,750	*1	40	40	.....	.....	.....
Union.....	652	1 1/2	978	183	100	18,300	.....	.....	.....	.....	.....	.....
Liberty.....	548	*2	1,096	68	*81	5,508	.....	.....	.....	.....	.....	.....
Madison.....	579	1	579	168	75	12,600	.....	.....	.....	.....	.....	.....
Lincoln.....	130	2	300	80	80	6,400	1	*117	117	2	.....	.....
Mishawaka t..	185	*2	370	7	*81	567	.....	.....	.....	.....	.....	.....
Walkerton t...	20	*2	40	2	*81	162	.....	.....	.....	.....	.....	.....
South Bend c..	16	*2	32	1	*81	81	.....	.....	.....	.....	.....	.....
Total.....	7,136	.....	13,420	1,356	.....	108,524	10	.....	1,216	4	.....	.....

Sullivan County.

Jackson.....	897	*2	1,794	58	*35	2,030	3	*36	108	4	*200	800
Curry.....	557	2 1/2	1,392	54	10	540	1	35	35	.....	.....	.....
Fair Bank.....	607	*2	1,214	20	*35	700	.....	.....	.....	.....	.....	.....
Turman.....	578	2	1,156	63	*26	1,638	2	*36	72	.....	.....	.....
Hamilton.....	2,170	1 1/2	3,255	27	60	1,620	2	10	20	*1	200	200
Cass.....	1,100	1 1/2	1,650	25	40	1,000	6	40	240	1	*200	200
Jefferson.....	815	2	1,630	3	30	90	*1	60	60	.....	.....	.....
Haddon.....	707	*2	1,414	6	*35	210	1	*36	36	.....	.....	.....
Gill.....	590	*2	1,180	10	*35	350	1	*36	36	.....	.....	.....
Total.....	8,021	.....	14,685	266	.....	8,178	17	.....	607	6	.....	1,200

TABLE No. IX.—Continued.

Switzerland County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Jefferson.....	1,172	1	1,172	573	25	14,325	7	*75	525	101	800	80,800
York.....	602	1	602	449	40	17,960	56	50	2,800	212	800	169,600
Posey.....	1,653	1¼	2,066	1,147	80	91,760	1,025	*75	76,875	15	*775	11,625
Cotton.....	1,626	*1	1,626	335	*60	20,100	8	*75	600	35	*775	27,125
Pleasant.....	2,025	1	2,025	144	100	14,400	2	100	200	24	1,000	24,000
Craig.....	1,597	¾	1,197	529	50	26,450	*1	75	75	185	500	92,500
Total.....	8,675	.....	8,688	3,177	.....	184,995	1,099	.....	81,075	572	.....	405,650

Tippecanoe County.

Laramie.....	1,353	*1	1,353	29	*58	1,682	3	*105	315	.....	.....	.....
Randolph.....	848	*1	848	51	*58	2,958	1	*105	105	.....	.....	.....
Jackson.....	2,067	¾	1,551	39	20	780	.....	.....	.....	.....	.....	.....
Wayne.....	377	1½	565	42	150	6,300	1	*105	105	.....	.....	.....
Union.....	703	*1	703	88	50	4,400	1	200	200	.....	.....	.....
Wea.....	885	*1	885	118	*58	6,844	4	*105	420	.....	.....	.....
Sheffield.....	507	1½	760	55	20	1,100	2	40	80	.....	.....	.....
Perry.....	593	*1	593	89	*58	5,162	3	*105	315	.....	.....	.....
Washington...	423	*1	423	51	*58	2,958	.....	.....	.....	.....	.....	.....
Tippecanoe....	1,492	*1	1,492	190	*58	11,020	1	*105	105	.....	.....	.....
Wabash.....	938	*1	938	59	*58	3,422	50	*105	5,250	.....	.....	.....
Shelby.....	2,414	1½	3,621	55	50	2,750	1	75	75	.....	.....	.....
Fairfield.....	333	*1	333	166	*58	9,628	10	*105	1,050	.....	.....	.....
Lafayette c....	83	*1	83	7	*58	406	3	*105	315	.....	.....	.....
Total.....	13,016	.....	14,148	1,039	.....	59,410	80	.....	8,335	.....	.....	.....

Tipton County.

Madison.....	740	1	740	*23	50	1,150	.....	.....	.....	*1	800	800
Cicero.....	1,128	*1	1,128	31	*31	961	.....	.....	.....	.....	.....	.....
Jefferson.....	892	*1	892	15	*31	465	.....	.....	.....	.....	.....	.....
Prairie.....	840	*1	840	15	*31	465	.....	.....	.....	20	*800	16,000
Liberty.....	576	*1	576	7	*31	217	11	*7	77	.....	.....	.....
Wild Cat.....	682	1½	1,023	47	12	564	4	7	28	7	*800	5,600
Total.....	4,858	.....	5,199	138	.....	3,822	15	.....	105	28	.....	22,400

Union County.

Center.....	481	*1	481	108	*80	8,640	2	*86	172	.....	.....	.....
Union.....	591	*1	591	93	*80	7,440	102	*86	8,772	.....	.....	.....
Harmony.....	367	1	367	23	100	2,300	11	*86	946	9	.....	.....
Liberty.....	402	1¼	502	37	*50	1,850	4	*86	344	2	.....	.....
Brownsville...	478	*1	478	7	*80	560	.....	.....	.....	.....	.....	.....
Harrison.....	486	1½	729	50	60	3,000	4	*86	344	.....	.....	.....
Total.....	2,805	.....	3,148	318	.....	23,790	123	.....	10,578	11	.....	.....

TABLE No. IX.—Continued.

Vanderburgh County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Pigeon.....	158	1 1/4	197	44	75	8,300	6	*132	132	.....	.....	.....
Knight	1,106	2	2,212	459	100	45,900	3	60	180	3	500	1,500
Scott	1,481	1 1/2	2,221	20	*69	1,380	.....	.....	.....	.....	.....	.....
Armstrong....	533	1 1/2	799	102	100	10,200	1	*132	132	2	*700	1,400
Perry	107	1	107	117	50	5,850	1	100	100	*1	500	500
Union.....	279	1 1/4	348	47	32	1,504	*1	270	270	*1	1,500	1,500
Center.....	1,240	1	1,240	54	75	4,050	*1	100	100	*1	300	300
German.....	132	1 1/4	165	164	50	8,200	4	*132	528	.....	.....	.....
Total.....	5,036	.....	7,289	1,007	.....	80,384	17	.....	1,442	8	.....	5,200

Vermillion County.

Highland	1,274	1	1,274	764	*33	25,212	.....	.....	.....	.....	.....	.....
Eugene.....	360	1	360	47	25	1,175	*1	30	30	1/4	.....	.....
Vermillion....	940	1 1/2	1,410	27	35	945	1	15	15	.....	.....	.....
Helt.....	2,142	1 1/2	3,213	32	40	1,280	*1	50	50	1/4	.....	.....
Clinton	770	*1	770	89	*33	2,937	.....	.....	.....	.....	.....	.....
Total.....	5,486	.....	7,027	959	.....	31,549	3	.....	95	1/4	.....	.....

Vigo County.

City.....	10	*1 1/2	15	.....	.....	.....	.....	.....	.....	.....	.....	.....
Honey Creek..	882	1 1/2	1,323	362	5	1,760	25	20	500	.....	.....	.....
Prairieton....	213	2	426	85	50	4,250	30	100	3,000	.....	.....	.....
Prairie Creek.	240	*1 1/2	360	20	*38	760	6	*53	318	.....	.....	.....
Linton.....	1,162	*1 1/2	1,743	122	*38	4,636	2	*53	106	.....	.....	.....
Pierson	1,310	1 1/4	1,637	137	75	10,275	*1	40	40	.....	.....	.....
Riley.....	673	1 1/2	1,009	*118	25	2,850	.....	.....	.....	.....	.....	.....
Lost Creek	1,091	*1 1/2	1,636	116	*38	4,408	13	*53	689	.....	.....	.....
Nevins.....	546	1 1/2	819	145	50	7,250	2	*53	106	1	.....	.....
Otter Creek....	477	1 1/2	715	74	*38	2,812	.....	.....	.....	.....	.....	.....
Fayette.....	673	1	673	*118	50	5,900	.....	.....	.....	.....	.....	.....
Sugar Creek...	801	*1 1/2	1,201	13	*38	494	3	*53	159	.....	.....	.....
Total.....	8,078	.....	11,557	2,300	.....	45,395	82	.....	4,918	1	.....	.....

Wabash County.

Chester	1,731	*1 1/2	2,596	177	*35	6,195	3	*52	156	10	*566	5,660
Lagro.....	2,261	1 1/2	3,391	217	25	5,425	1	50	50	.....	.....	.....
Liberty	1,347	1 1/2	2,020	34	40	1,360	*1	75	75	31	500	15,500
Noble.....	2,144	2	4,288	205	50	10,250	18	75	1,350	1	800	800
Pleasant.....	1,093	1 1/2	1,639	89	40	3,560	2	50	100	.....	.....	.....
Paw Paw.....	668	*1 1/2	1,002	134	*35	4,690	.....	.....	.....	.....	.....	.....
Waltz.....	1,293	2	2,586	147	20	2,940	*1	10	10	*1	400	400
Total.....	10,537	.....	17,522	1,003	.....	34,420	26	.....	1,741	43	.....	22,360

TABLE No. IX.—Continued.

Warren County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Po'nds
Washington...	484	*1½	726	12	*54	648	5	*125	625	.....	.....	.....
Pine.....	1,422	*1½	2,133	24	*54	1,296	.....	.....	.....	.....	.....	.....
Mound.....	540	1½	810	21	50	1,050	.....	.....	.....	.....	.....	.....
Steuben.....	1,284	1½	1,926	28	50	1,400	.....	.....	.....	.....	.....	.....
Pike.....	458	1	458	.....	.....	.....	*1	50	50	.....	.....	.....
Medina.....	2,000	1½	3,000	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warren.....	520	1½	780	6	5	30	.....	.....	.....	.....	.....	.....
Liberty.....	1,331	1¼	1,664	55	45	2,475	.....	.....	.....	.....	.....	.....
Adams.....	721	1½	1,081	18	150	2,700	*1	200	200	.....	.....	.....
Jordon.....	1,210	1	1,210	*25	30	750	.....	.....	.....	.....	.....	.....
Prairie.....	1,386	1½	1,732	65	*54	3,510	1	*125	125	.....	.....	.....
Kent.....	245	1	245	2	50	100	.....	.....	.....	.....	.....	.....
Total.....	11,501	.....	15,765	256	.....	13,959	8	.....	1,000	.....	.....	.....

Warrick County.

Anderson	382	*1½	573	477	*62	29,574	3	*69	207	198	*600	115,800
Boone.....	3,126	1½	4,689	288	125	34,900	60	150	9,000	1,049	600	629,400
Campbell.....	709	1¼	896	105	100	10,500	5	30	150	575	450	258,750
Greer	343	*1½	514	11	40	440	.....	.....	.....	246	800	196,800
Hart.....	1,232	1½	1,848	45	40	1,800	6	30	180	432	600	259,200
Lane.....	404	*1½	606	41	*62	2,542	3	*69	207	474	*600	284,400
Ohio.....	1,702	*1½	2,553	654	*62	40,548	90	*69	6,210	245	*600	147,000
Owen	246	1	246	17	40	680	4	100	400	495	600	297,000
Pigeon.....	670	*1½	1,005	55	*62	3,410	5	*69	345	210	*600	126,000
Skelton	668	1½	1,002	44	25	1,100	2	35	70	554	500	277,000
Total.....	9,482	.....	13,922	1,737	.....	125,494	178	.....	16,769	4,473	.....	2,584,350

Washington County.

Gibson	1,010	1½	1,515	41	84	3,444	*1	14	14	*1	200	200
Monroe	1,049	2	2,098	13	*56	728	.....	.....	.....	.....	.....	.....
Jefferson.....	1,239	½	619	12	20	240	2	40	80	*1	2,000	2,000
Brown.....	1,336	*1½	2,004	14	*56	784	.....	.....	.....	.....	.....	.....
Vernon.....	1,356	1½	2,034	3	*56	168	.....	.....	.....	1	*800	800
Washington...	3,590	*1½	5,385	10	*56	560	2	*34	68	6	*800	4,800
Franklin.....	1,438	*1½	2,157	36	*56	2,016	.....	.....	.....	6	*800	4,800
Polk.....	297	1	297	57	100	5,700	.....	.....	.....	41	900	36,900
Pierce.....	1,272	1½	1,908	12	100	1,200	.....	.....	.....	5	1,000	5,000
Howard.....	168	1½	252	*15	40	600	*1	50	50	10	1,000	10,000
Madison.....	633	*1½	949	4	*56	224	.....	.....	.....	.....	.....	.....
Posey.....	803	*1½	1,204	.....	.....	.....	.....	.....	.....	2	*800	1,600
Jackson.....	672	*1½	1,008	*15	20	300	.....	.....	.....	.....	.....	.....
Salem t.....	168	*1½	252	3	*56	168	2	*34	68	.....	.....	.....
Total.....	15,031	.....	21,682	235	.....	16,132	8	.....	280	73	.....	66,100

TABLE No. IX.—Continued.

Wayne County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Po'nds
Abington.....	587	1	537	35	40	1,400	8	*62	186	.....	.....	.....
Boston.....	440	1½	660	76	50	3,800	2	75	150	.....	.....	.....
Center.....	1,338	1½	2,007	105	50	5,250	42	75	3,150	2	*800	1,600
Clay.....	406	1½	609	7	*63	441	.....	.....	.....	.....	.....	.....
Dalton.....	1,538	1	1,538	3	40	120	1	25	25	.....	.....	.....
Franklin.....	762	1½	1,143	10	40	400	.....	60	.....	.....	.....	.....
Green.....	437	2	874	47	100	100	7	25	175	.....	.....	.....
Harrison.....	218	1	218	95	50	4,750	.....	.....	.....	98	800	78,400
Jackson.....	775	1½	1,162	160	75	12,000	5	80	400	147	*800	117,600
Jefferson.....	479	1½	718	49	40	1,960	.....	50	.....	4	*800	3,200
New Garden...	693	1½	1,039	182	150	27,300	1	90	90	.....	.....	.....
Perry.....	439	1	439	21	100	2,100	1	75	75	1	*800	800
Washington...	765	1½	1,147	59	20	1,180	260	40	10,400	32	*800	25,600
Wayne.....	2,010	1½	3,060	275	50	13,750	21	100	2,100	5	*900	4,000
Webster.....	189	1½	283	86	50	4,300	1	*62	62	2	*800	1,600
Total.....	11,026	.....	15,434	1,210	.....	78,851	344	.....	16,813	291	.....	232,800

Wells County.

Jackson.....	1,157	*1½	1,735	41	*44	1,804	1	*93	93	.....	.....	.....
Chester.....	1,249	*1½	1,873	62	*44	2,728	8	*93	279	.....	.....	.....
Liberty.....	433	1½	649	18	10	180	.....	.....	.....	1	.....	.....
Rock Creek....	1,027	*1½	1,540	54	*44	2,376	.....	.....	.....	.....	.....	.....
Union.....	1,087	1	1,087	26	30	780	3	50	150	2	.....	.....
Nottingham...	1,204	1½	1,806	11	25	275	5	30	150	1	.....	.....
Harrison.....	1,729	1½	2,593	130	50	6,500	1	200	200	1	.....	.....
Lancaster.....	1,085	1½	1,627	45	50	2,250	2	*93	186	.....	.....	.....
Jefferson.....	1,743	1½	2,614	159	100	15,900	5	*93	465	.....	.....	.....
Total.....	10,714	.....	15,524	546	.....	32,793	20	.....	1,523	5	.....	.....

White County.

Prairie.....	3,022	*1½	4,533	77	*40	3,080	.....	.....	.....	12	.....	.....
Big Creek.....	1,475	*1½	2,212	29	*40	1,160	.....	.....	.....	.....	.....	.....
Union.....	1,610	*1½	2,415	59	*40	2,360	.....	.....	.....	.....	.....	.....
Monon.....	1,412	*1½	2,118	92	*40	3,680	¾	*30	22	1	.....	.....
Liberty.....	684	2	1,368	115	40	4,600	2	30	60	.....	.....	.....
Jackson.....	731	1½	1,096	51	50	2,550	.....	.....	.....	.....	.....	.....
Princeton.....	1,710	1½	2,565	40	50	2,000	1	*30	30	.....	.....	.....
West Point....	1,297	*1½	1,945	12	*40	480	.....	.....	.....	.....	.....	.....
Oass.....	177	*1½	265	19	*40	760	.....	.....	.....	.....	.....	.....
Honey Creek..	313	1	313	68	50	3,400	.....	.....	.....	.....	.....	.....
Rosbud Grove..	548	1	548	33	10	330	1	*30	30	.....	.....	.....
Total.....	11,979	.....	19,378	595	.....	24,400	4¾	.....	142	13	.....	.....

TABLE No. IX.—Continued.

Whitley County.

Townships.	Meadow and Hay.			Irish Potatoes.			Sweet Potatoes.			Tobacco.		
	Acres of Meadow	Tons per Acre.	Tons of Hay.	Acres	Bushels per Acre.	Bushels	Acres	Bushels per Acre.	Bushels.	Acres.	Pounds per Acre.	Pounds
Cleveland	1,035	1½	1,552	31	75	2,325	.....	.....	.....	.....	.....	.....
Richland.....	1,195	*2	2,390	76	*60	4,560	.....	.....	.....	.....	.....	.....
Troy	780	1½	1,170	112	50	5,600	1	75	75	1	.....	.....
Etna.....	182	*2	364	69	*60	4,140	.....	.....	.....	.....	.....	.....
Washington...	695	*2	1,390	112	*60	6,720	.....	.....	.....	3	.....	.....
Columbia	743	1½	1,114	103	50	5,150	.....	.....	.....	.....	.....	.....
Thorn Creek..	963	2	1,926	116	75	8,700	1	*75	75	.....	.....	.....
Jefferson	864	*2	1,728	36	*60	2,160	.....	.....	.....	.....	.....	.....
Union.....	1,132	2	2,264	82	75	6,150	1	*75	75	.....	.....	.....
Smith.....	953	2	1,906	37	40	1,480	1	*75	75	.....	.....	.....
Total.....	8,542	.....	15,804	774	.....	46,985	4	.....	300	4	.....	.....

NOTE.—Many township assessors report an acreage of tobacco, but where the trustees did not report any rate per acre anywhere in the county, the Bureau has not estimated for the same. In some instances the trustees would report a full showing per acre where the assessors have given no acres. The difference between the estimated amounts in the same county was occasioned by the clerk, who first began the table taking the average only of the townships reporting in the county. After the tables had been partly made, the plan of adding several townships of adjoining counties was adopted.

Any one who may take any interest in knowing what counties have manifested the greatest interest in furnishing full reports, may know them by the absence of stars (*) indicating estimates by the Bureau. Several counties that should have done better, are shown mainly by "star-light" in this table.

TABLE No. X.

WHEAT.

Statement Showing the Acreage and Bushels of *Wheat* for the Years 1878, 1879 and 1880, and the Increase or Decrease since 1878, as shown by the Assessors for said Years.

Counties.	Acres, 1878.	Acres, 1879.	Acres, 1880.	Bushels, 1878.	Bushels, 1879.	Bushels, 1880.	Acres, 1879.		Acres, 1880.		Bushels, 1879.		Bushels, 1880.	
							Incr'se since 1878.	Decr'se since 1878.	Incr'se since 1878.	Decr'se since 1878.	Increase since 1878.	Decrease since 1878.	Increase since 1878.	Decrease since 1878.
Adams.....	16,846	20,030	27,492	242,738	349,403	414,852	3,184	.....	10,646	.....	106,665	.....	172,114	.....
Allen.....	39,758	47,087	52,469	636,009	779,027	821,365	7,329	.....	12,711	.....	143,018	.....	185,356	.....
Bartholomew.....	37,434	36,458	49,569	432,706	568,708	665,902	.....	976	12,185	.....	136,002	.....	233,196	.....
Benton.....	1,363	3,227	11,376	14,601	58,734	161,203	1,864	.....	10,013	.....	44,233	.....	146,702	.....
Blackford.....	7,395	8,601	12,516	84,164	176,218	217,703	1,205	.....	5,120	.....	92,054	.....	133,539	.....
Boone.....	23,687	26,629	36,689	300,604	465,192	546,144	3,042	.....	13,102	.....	161,688	.....	245,640	.....
Brown.....	4,910	7,324	10,255	35,365	59,506	105,442	2,414	.....	5,345	.....	24,141	.....	70,077	.....
Carroll.....	34,666	54,521	48,572	512,635	838,344	843,512	18,965	.....	14,006	.....	318,659	.....	323,827	.....
Cass.....	31,622	34,802	38,163	512,981	748,383	615,222	3,180	.....	6,531	.....	236,402	.....	102,241	.....
Clark.....	15,863	16,471	21,777	163,004	152,139	198,586	.....	892	5,914	.....	.....	10,865	35,561	.....
Clay.....	19,394	72,070	34,090	190,583	309,846	503,113	52,676	.....	14,696	.....	119,763	.....	312,530	.....
Clinton.....	30,760	31,668	47,269	461,155	1,004,862	685,915	.....	.....	16,509	.....	543,707	.....	224,780	.....
Crawford.....	8,435	8,404	11,073	50,082	57,903	89,470	.....	31	3,638	.....	7,821	.....	39,388	.....
Davies.....	38,723	43,632	57,298	344,557	950,091	747,169	4,909	.....	18,575	.....	605,634	.....	402,612	.....
Dearborn.....	20,240	22,107	26,341	281,660	247,953	264,117	1,867	.....	6,101	.....	191,708	.....	316,793	.....
Decatur.....	22,610	27,054	35,923	272,597	464,305	589,390	4,444	.....	13,313	.....	.....	5,172	22,784	.....
Dekalb.....	27,702	28,240	32,138	516,360	511,178	539,134	538	.....	4,436	.....	166,006	.....	242,255	.....
Delaware.....	21,995	25,818	32,947	308,173	473,179	550,428	3,823	.....	10,952	.....	60,705	.....	153,629	.....
Dubois.....	19,021	22,618	32,344	142,665	203,370	296,294	3,597	.....	13,323	.....	219,185	.....	176,069	.....
Elkhart.....	45,179	48,807	54,613	782,210	951,425	907,309	3,628	.....	9,434	.....	89,617	.....	49,733	.....
Fayette.....	16,852	17,835	21,585	298,716	388,333	348,449	983	.....	4,733	.....	65,206	.....	73,059	.....
Floyd.....	5,247	6,837	9,090	23,582	88,788	96,641	1,590	.....	3,843	.....	.....	.....	291,106	.....
Fountain.....	29,374	37,612	45,731	474,114	788,190	765,220	8,238	.....	16,357	.....	314,076	.....	98,367	.....
Franklin.....	21,556	26,908	31,983	227,609	377,456	825,876	5,352	.....	10,427	.....	149,947	.....	156,814	.....
Fulton.....	22,239	25,503	28,040	311,581	497,679	466,895	3,264	.....	6,801	.....	185,998	.....	229,832	.....
Gibson.....	65,644	60,200	68,635	728,645	817,087	958,877	.....	5,444	.....	2,109	88,482	.....	.....	.....

TABLE No. X.—Continued.

Counties.	Acres, 1878.	Acres, 1879.	Acres, 1880.	Bushels, 1878.	Bushels, 1879.	Bushels, 1880.	Acres, 1879.		Acres, 1880.		Bushels, 1879.		Bushels, 1880.	
							Incr'se since 1878.	Decr'se since 1878.	Incr'se since 1878.	Decr'se since 1878.	Incr'se since 1878.	Decr'se since 1878.	Incr'se since 1878.	Decr'se since 1878.
Grant.....	22,681	19,203	29,890	315,702	336,697	600,433	.....	3,478	7,209	.....	20,995	.....	284,731	.....
Greene.....	25,081	27,295	40,798	132,538	281,881	508,268	2,214	.....	15,717	.....	149,343	.....	375,730	.....
Hamilton.....	31,304	34,546	43,752	486,285	683,398	689,379	3,242	.....	12,448	.....	197,113	.....	203,094	.....
Hancock.....	25,741	27,752	34,638	412,754	580,207	598,984	2,011	.....	8,897	.....	167,453	.....	186,230	.....
Harrison.....	27,105	28,606	38,990	258,162	305,818	380,951	1,501	.....	11,885	.....	47,656	.....	122,789	.....
Hendricks.....	28,062	30,743	40,153	369,318	540,100	681,234	2,681	.....	12,091	.....	170,782	.....	311,916	.....
Henry.....	31,177	38,932	48,420	461,552	762,958	844,343	7,755	.....	17,243	.....	301,406	.....	382,791	.....
Howard.....	24,055	25,720	35,777	298,737	524,753	589,181	1,665	.....	11,722	.....	226,016	.....	290,444	.....
Huntington.....	25,163	29,979	55,958	443,967	605,858	660,275	4,816	.....	30,795	.....	161,891	.....	216,308	.....
Jackson.....	16,837	22,366	28,298	176,635	276,268	314,527	5,529	.....	11,461	.....	99,633	.....	187,892	.....
Jasper.....	2,861	5,051	9,674	36,012	86,817	111,496	2,190	.....	6,813	.....	50,305	.....	76,484	.....
Jay.....	18,024	22,724	27,655	254,929	427,984	467,957	4,700	.....	9,631	.....	173,055	.....	213,028	.....
Jefferson.....	16,419	20,258	28,064	185,458	218,664	291,590	3,839	.....	11,645	.....	33,206	.....	106,132	.....
Jennings.....	10,826	14,542	18,799	80,705	112,734	210,315	3,716	.....	7,973	.....	32,029	.....	129,610	.....
Johnson.....	27,309	32,571	42,136	409,940	643,728	582,469	6,262	.....	14,827	.....	133,788	.....	172,529	.....
Knox.....	46,072	47,463	58,266	657,604	692,721	871,376	1,391	.....	12,194	.....	35,117	.....	213,771	.....
Kosciusko.....	39,137	47,054	53,433	644,554	726,077	852,562	7,917	.....	14,296	.....	81,523	.....	208,008	.....
Lagrange.....	39,118	38,321	51,330	680,969	778,121	928,326	.....	1,097	12,212	.....	92,152	.....	242,357	.....
Lake.....	2,373	2,976	5,097	31,122	50,019	54,434	603	.....	2,724	.....	18,897	.....	23,312	.....
Laporte.....	35,258	40,796	46,810	402,128	830,521	814,197	5,538	.....	11,552	.....	428,393	.....	412,069	.....
Lawrence.....	12,347	22,425	16,613	115,191	244,405	164,402	10,079	.....	4,265	.....	129,214	.....	49,211	.....
Madison.....	37,312	37,020	48,724	197,465	740,900	779,250	.....	292	11,412	.....	543,435	.....	581,785	.....
Marion.....	24,568	31,035	40,470	391,936	481,819	571,368	.....	.....	15,902	.....	89,883	.....	179,432	.....
Marshall.....	50,216	33,775	39,865	1,148,505	539,653	696,744	6,467	.....	.....	10,351	.....	.....	461,761	.....
Martin.....	13,943	12,739	19,662	75,438	109,978	232,053	.....	16,441	5,719	.....	34,540	.....	157,614	.....
Miami.....	28,849	36,623	49,799	471,115	774,437	766,952	7,774	.....	20,950	.....	303,322	.....	285,887	.....
Monroe.....	10,329	12,761	14,831	77,399	89,120	165,781	2,432	.....	4,502	.....	11,721	.....	88,382	.....
Montgomery.....	33,573	41,907	56,164	640,444	961,997	1,035,196	8,834	.....	22,591	.....	821,553	.....	894,752	.....
Morgan.....	23,480	24,347	33,944	222,195	409,337	487,434	867	.....	10,464	.....	187,142	.....	265,259	.....
Newton.....	1,762	2,479	7,188	20,544	53,764	84,179	717	.....	5,426	.....	38,220	.....	63,635	.....
Noble.....	34,522	36,993	48,953	582,374	704,553	718,333	2,471	.....	9,431	.....	122,179	.....	185,959	.....
Ohio.....	7,413	7,662	9,455	74,743	88,146	91,755	.....	.....	2,042	.....	13,403	.....	17,012	.....
Orange.....	12,864	13,217	19,511	89,114	176,008	189,201	353	.....	6,664	.....	86,889	.....	100,087	.....
Owen.....	12,163	17,370	23,787	126,733	160,716	295,379	5,207	.....	11,624	.....	63,985	.....	168,646	.....
Parks.....	32,188	37,566	45,940	456,125	679,282	733,794	5,878	.....	13,752	.....	233,157	.....	277,669	.....

Perry.....	11,006	11,445	30,566	91,610	99,845	235,533	437	.....	19,538	.....	8,235	.....	153,923
Pike.....	23,720	28,093	35,429	913,993	388,545	438,873	4,373	.....	11,709	.....	124,553	.....	224,880
Porter.....	11,512	11,691	25,254	161,008	324,479	377,775	179	.....	13,742	.....	63,471	.....	216,767
Posey.....	50,332	51,210	63,083	622,255	849,302	971,743*	833	.....	12,786	.....	227,047	.....	349,488
Palaski.....	8,983	7,308	27,449	110,246	195,736	411,243	.....	.....	18,466	.....	85,880	.....	301,002
Putnam.....	15,463	23,740	32,412	217,015	323,731	421,961	8,277	.....	16,949	.....	106,716	.....	204,946
Randolph.....	26,622	22,777	43,123	398,803	553,456	261,297	.....	.....	16,501	.....	154,853	.....	137,806
Ripley.....	18,497	21,278	29,108	184,405	247,671	322,891	2,781	.....	10,611	.....	63,266	.....	138,486
Rush.....	34,487	43,009	50,555	510,100	875,771	854,425	8,522	.....	16,068	.....	365,671	.....	344,325
Scott.....	4,388	7,244	10,750	52,711	61,364	107,272	2,856	.....	6,363	.....	8,643	.....	54,561
Shelby.....	44,891	45,969	53,158	728,790	833,671	863,985	1,078	.....	8,267	.....	104,881	.....	135,235
Spencer.....	22,604	.....	28,274	168,342	248,302	337,532	.....	.....	5,770	79,960	.....	.....	169,240
Starke.....	3,811	3,239	4,788	34,000	28,711	69,785	.....	522	9,977	5,289	.....	.....	35,785
St. Joseph.....	39,354	43,420	48,457	665,086	690,794	949,141	4,066	.....	9,103	.....	35,708	.....	284,055
Stenben.....	25,200	27,164	33,594	413,091	495,690	589,691	1,964	.....	8,394	.....	82,593	.....	176,600
Sullivan.....	42,837	50,167	62,974	496,535	651,731	825,615	7,280	.....	20,087	.....	155,196	.....	329,080
Switzerland.....	16,182	14,816	19,780	119,237	166,253	229,352	.....	.....	3,598	.....	47,016	.....	110,115
Tipton.....	11,996	13,401	21,268	175,444	225,313	314,220	.....	1,367	9,273	.....	49,869	.....	138,776
Tippecanoe.....	62,065	.....	47,231	1,530,722	875,814	966,111	1,406	.....	.....	654,907	.....	.....	564,611
Union.....	13,804	14,734	18,040	186,187	250,213	327,777	930	.....	4,236	.....	64,026	.....	141,590
Vanderburgh.....	25,324	26,707	20,878	276,812	431,807	364,268	1,383	.....	4,554	.....	154,995	.....	87,456
Vermillion.....	26,417	29,825	37,257	423,042	569,970	1,686,486	3,403	.....	10,840	.....	146,928	.....	1,262,444
Vigo.....	37,316	35,795	41,776	418,890	551,306	815,255	.....	1,521	4,460	.....	132,416	.....	396,365
Wabash.....	31,017	38,093	45,883	525,302	829,772	836,128	7,076	.....	14,866	.....	304,470	.....	310,826
Warren.....	8,177	25,834	21,633	95,510	501,196	367,267	17,657	.....	13,456	.....	405,686	.....	271,757
Warrick.....	23,347	25,929	36,986	172,810	273,464	254,444	2,582	.....	13,639	.....	100,654	.....	81,634
Washington.....	17,471	17,069	21,174	128,495	119,354	252,049	.....	402	3,603	9,141	.....	.....	123,554
Wayne.....	25,576	32,055	39,663	292,421	633,275	669,195	6,479	.....	14,087	.....	340,854	.....	376,774
Wells.....	21,738	23,335	29,591	333,778	455,739	477,143	1,597	.....	7,853	.....	121,961	.....	143,365
White.....	9,367	20,375	22,375	126,404	249,484	320,652	11,006	.....	13,008	.....	123,080	.....	194,248
Whitley.....	24,176	23,228	27,620	342,795	442,810	499,697	.....	947	3,445	.....	100,015	.....	156,902
Total.....	2,208,068	2,422,480	3,109,845	29,953,807	41,236,630	47,130,684	.....	.....	.....	.....	.....	.....	.....

TABLE No. XI.
CORN.

Statement showing the Acres and Bushels of *Corn* for the Years 1878, 1879 and 1880, as reported by the Assessors in April for 1878-9, and the Trustees in August, September and October, 1880.

Counties.	Acres, 1878.	Acres, 1879.	Acres, 1880.	Bushels, 1878.	Bushels, 1879.	Bushels, 1880.	Acres, 1879.		Acres, 1880.		Bushels, 1879.		Bushels, 1880.	
							Incr'se since 1878.	Decr'se since 1878.	Incr'se since 1878.	Decr'se since 1878.	Increase since 1878.	Decrease since 1878.	Increase since 1878.	Decrease since 1878.
Adams	20, 175	21, 889	18, 898	514, 622	561, 808	498, 474	1, 714	.....	.....	.....	47, 186	.....	.....	16, 148
Allen.....	37, 131	39, 554	38, 070	792, 523	1, 132, 787	1, 213, 784	2, 423	.....	939	.....	340, 264	.....	421, 211	.....
Bartholomew.....	54, 531	32, 779	50, 289	1, 673, 065	1, 489, 208	1, 149, 800	.....	21, 752	.....	4, 242	.....	183, 857	.....	523, 265
Benton.....	85, 072	81, 292	88, 622	2, 050, 580	2, 722, 920	2, 579, 701	.....	3, 780	3, 550	.....	672, 340	.....	529, 121	.....
Blackford.....	12, 827	12, 857	13, 650	409, 221	319, 761	337, 130	30	.....	823	.....	.....	90, 060	.....	72, 691
Boone	44, 181	66, 523	42, 941	1, 667, 204	1, 303, 228	863, 521	12, 342	.....	.....	1, 240	.....	363, 976	.....	803, 683
Brown.....	17, 454	11, 442	11, 602	411, 435	265, 050	220, 788	.....	.....	.....	5, 852	.....	146, 385	.....	190, 647
Carroll.....	37, 886	37, 998	33, 892	1, 306, 697	1, 098, 355	837, 029	112	.....	.....	3, 994	.....	208, 342	.....	469, 668
Cass	34, 935	35, 470	37, 107	1, 269, 822	1, 202, 907	936, 910	585	.....	1, 637	.....	.....	66, 915	.....	332, 912
Clark	28, 543	26, 081	25, 651	570, 252	409, 573	523, 959	.....	2, 462	.....	2, 892	.....	160, 679	.....	46, 203
Clay	29, 619	30, 778	24, 836	528, 636	634, 404	737, 091	1, 159	.....	.....	4, 783	.....	107, 768	.....	.....
Clinton.....	50, 589	64, 219	48, 686	2, 099, 981	1, 501, 311	1, 134, 206	13, 630	.....	.....	1, 903	598, 670	.....	.....	965, 775
Crawford.....	19, 262	15, 677	15, 534	190, 253	200, 851	288, 309	.....	.....	.....	3, 728	10, 598	.....	.....	.....
Davless.....	36, 217	37, 105	36, 303	810, 201	972, 285	903, 090	888	.....	86	.....	162, 084	.....	.....	.....
Dearborn	22, 301	24, 915	23, 455	614, 906	580, 432	689, 763	2, 614	.....	1, 154	.....	.....	.....	.....	.....
Decatur.....	39, 142	43, 436	40, 421	1, 210, 219	1, 122, 867	1, 321, 619	4, 293	.....	1, 279	.....	.....	87, 352	.....	.....
DeKalb	21, 268	20, 467	18, 874	485, 492	645, 089	523, 636	.....	.....	.....	.....	159, 597	.....	36, 044	.....
Delaware.....	50, 301	46, 420	37, 137	1, 552, 075	1, 313, 873	804, 316	.....	801	.....	13, 164	.....	238, 202	.....	657, 759
Dubois.....	21, 781	34, 439	21, 955	358, 475	445, 058	485, 831	12, 658	.....	174	.....	86, 583	.....	.....	.....
Elkhart.....	28, 944	42, 799	38, 081	900, 127	967, 991	1, 365, 322	13, 855	.....	9, 137	.....	67, 864	.....	465, 195	.....
Fayette.....	38, 817	28, 882	28, 776	1, 043, 548	975, 597	954, 197	.....	9, 935	.....	10, 041	.....	67, 951	.....	89, 351
Floyd.....	6, 598	7, 899	7, 891	37, 783	141, 937	187, 450	801	.....	1, 293	.....	4, 154	.....	.....	149, 667
Fountain.....	46, 878	45, 715	41, 530	1, 424, 888	1, 512, 055	1, 008, 001	.....	1, 163	.....	5, 348	87, 167	.....	.....	421, 887
Franklin.....	33, 866	37, 534	42, 110	979, 710	1, 089, 776	982, 690	3, 668	.....	8, 244	.....	60, 066	.....	.....	.....
Fulton.....	26, 409	30, 727	23, 894	742, 811	606, 077	755, 748	4, 318	.....	.....	2, 515	.....	136, 734	.....	.....
Gibson.....	42, 483	40, 265	46, 310	728, 545	1, 178, 796	1, 541, 472	.....	2, 218	.....	36, 488	450, 251	.....	812, 927	.....

Grant.....	46, 077	32, 094	1, 329, 054	803, 699	923, 660	14, 803	13, 953	.....	525, 355	.....	405, 394
Greene.....	37, 043	40, 196	1, 605, 550	1, 137, 211	847, 874	.....	.....	.....	.....	242, 324	.....
Hamilton.....	52, 050	49, 516	1, 605, 830	1, 767, 581	1, 104, 349	803	2, 534	.....	.....	.....	600, 981
Hancock.....	39, 090	37, 072	1, 476, 440	1, 187, 828	1, 023, 983	2, 018	1, 446	.....	289, 112	.....	452, 457
Harrison.....	26, 681	26, 651	1, 394, 328	880, 170	631, 876	.....	30	.....	14, 158	237, 548	.....
Hendricks.....	53, 063	46, 574	1, 384, 216	1, 680, 779	1, 246, 674	.....	5, 489	.....	.....	.....	137, 542
Henry.....	53, 376	53, 099	1, 857, 054	1, 817, 820	1, 492, 909	384	276	.....	69, 234	.....	394, 145
Howard.....	84, 535	84, 899	1, 141, 458	924, 250	845, 896	.....	.....	.....	217, 208	.....	235, 592
Huntington.....	35, 949	40, 311	1, 194, 063	968, 496	951, 748	.....	.....	.....	225, 567	.....	242, 315
Jackson.....	37, 852	40, 815	1, 107, 588	858, 090	746, 371	8, 363	.....	.....	249, 498	.....	361, 217
Jasper.....	41, 971	34, 476	957, 279	827, 163	828, 281	.....	7, 495	.....	130, 114	.....	128, 998
Jay.....	33, 759	35, 093	814, 076	805, 314	808, 114	.....	.....	.....	8, 762	.....	6, 962
Jefferson.....	20, 944	26, 011	456, 182	408, 372	378, 618	.....	.....	.....	.....	269, 103	.....
Jennings.....	22, 456	21, 251	1, 383, 603	1, 714, 236	1, 315, 283	1, 519	1, 205	.....	47, 810	.....	29, 754
Johnson.....	42, 712	40, 633	1, 170, 496	1, 124, 996	1, 370, 848	.....	2, 079	.....	45, 500	.....	68, 320
Knox.....	43, 280	40, 766	1, 174, 248	944, 597	1, 141, 417	.....	2, 514	.....	229, 651	200, 352	.....
Kosciusko.....	37, 696	33, 213	770, 034	831, 975	919, 427	.....	4, 483	.....	.....	.....	32, 821
Lagrange.....	23, 031	23, 322	898, 982	721, 105	939, 239	.....	.....	.....	.....	149, 393	.....
Lake.....	33, 810	32, 391	878, 191	1, 014, 254	1, 305, 895	1, 829	1, 219	.....	177, 877	40, 257	.....
Laporte.....	31, 355	40, 383	599, 875	505, 270	555, 883	.....	.....	.....	.....	427, 704	.....
Lawrence.....	24, 730	28, 350	599, 875	1, 641, 294	1, 443, 052	.....	.....	.....	94, 106	.....	43, 192
Madison.....	61, 019	53, 331	1, 013, 798	1, 890, 720	1, 879, 071	.....	.....	.....	.....	429, 254	.....
Marion.....	53, 600	53, 493	2, 120, 729	687, 928	930, 459	.....	.....	.....	230, 009	.....	941, 658
Marshall.....	58, 531	27, 545	1, 492, 643	330, 270	392, 718	29, 096	30, 990	.....	.....	.....	562, 114
Martin.....	17, 126	17, 985	308, 330	104, 330	1, 034, 025	.....	.....	.....	.....	84, 498	.....
Miami.....	39, 667	37, 361	1, 295, 571	373, 024	459, 841	.....	859	.....	.....	.....	261, 546
Monroe.....	23, 251	49, 374	599, 493	2, 080, 379	1, 371, 876	.....	.....	.....	.....	.....	139, 652
Montgomery.....	59, 022	153, 372	1, 784, 098	1, 319, 388	1, 039, 038	.....	.....	.....	226, 469	.....	362, 222
Morgan.....	44, 349	40, 327	972, 874	1, 288, 717	987, 063	1, 165	4, 022	.....	.....	66, 164	.....
Newton.....	50, 871	44, 023	1, 375, 586	746, 845	1, 033, 245	6, 898	6, 848	.....	86, 849	475, 351	388, 503
Noble.....	33, 622	23, 944	557, 894	236, 471	818, 405	6, 943	9, 078	.....	.....	108, 762	.....
Ohio.....	9, 006	8, 604	209, 643	286, 471	689, 360	.....	.....	.....	.....	152, 324	.....
Orange.....	31, 297	25, 095	437, 036	280, 044	506, 392	1, 487	6, 202	.....	.....	8, 337	.....
Owen.....	20, 264	23, 108	497, 055	638, 194	506, 392	.....	.....	.....	.....	267, 872	76
Parke.....	44, 292	46, 562	1, 006, 637	1, 505, 696	1, 273, 409	.....	.....	.....	.....	.....	.....
Perry.....	15, 568	14, 919	286, 290	308, 352	286, 214	649	1, 158	.....	.....	.....	.....
Pike.....	25, 363	29, 714	683, 922	704, 296	720, 924	.....	.....	.....	.....	37, 002	.....
Porter.....	32, 939	35, 816	867, 375	639, 574	1, 097, 061	.....	.....	.....	.....	229, 686	.....
Posey.....	42, 224	40, 869	1, 186, 068	1, 455, 407	1, 335, 569	.....	1, 355	.....	.....	149, 501	.....
Pulaski.....	24, 586	17, 120	364, 052	273, 745	502, 492	4, 382	7, 466	.....	90, 307	138, 350	.....
Putnam.....	39, 477	41, 188	865, 098	1, 032, 465	1, 100, 504	1, 747	.....	.....	.....	235, 406	.....
Randolph.....	52, 436	54, 073	1, 935, 399	1, 686, 740	1, 386, 829	.....	.....	.....	248, 659	.....	548, 570
Ripley.....	27, 539	27, 819	583, 165	580, 474	627, 892	.....	.....	.....	2, 691	43, 627	.....
Rush.....	53, 352	58, 645	1, 751, 299	2, 009, 641	2, 375, 923	.....	.....	.....	.....	624, 624	.....
Scott.....	10, 764	14, 508	274, 937	189, 699	316, 376	.....	.....	.....	.....	41, 439	.....
Shelby.....	63, 942	58, 278	2, 454, 700	2, 011, 664	1, 976, 011	.....	5, 684	.....	.....	.....	479, 689
Spencer.....	42, 434	35, 394	586, 160	635, 208	1, 061, 291	.....	42, 446	.....	85, 238	475, 131	.....
Starke.....	6, 935	5, 253	554, 900	90, 271	174, 881	.....	1, 682	.....	443, 036	.....	479, 869
St. Joseph.....	26, 739	31, 741	864, 130	829, 554	1, 223, 748	.....	.....	.....	.....	358, 618	.....
Steuben.....	19, 545	20, 179	614, 881	767, 160	643, 220	.....	.....	.....	34, 576	28, 339	.....

TABLE No. XI.—Continued.

Counties.	Acres, 1878.	Acres, 1879.	Acres, 1880.	Bushels, 1878.	Bushels, 1879.	Bushels, 1880.	Acres, 1879.		Acres, 1880.		Bushels, 1879.		Bushels, 1880.	
							Incr'se since 1878.	Decr'se since 1878.	Incr'se since 1878.	Decr'se since 1878.	Increase since 1878.	Decrease since 1878.	Increase since 1878.	Decrease since 1878.
Sullivan.....	44,153	46,780	36,606	1,077,836	935,005	975,572	2,627	.....	.....	7,547	.....	142,831	.....	102,264
Switzerland.....	19,266	20,816	10,926	296,127	440,461	352,294	1,550	.....	.....	8,340	.....	.....	56,167	.....
Tippecanoe.....	31,294	23,018	26,246	1,073,482	719,041	741,040	.....	8,276	.....	5,048	.....	354,441	.....	332,442
Tipton.....	115,967	74,389	73,398	24,053,709	2,511,816	1,928,415	.....	41,578	.....	42,569	.....	1,541,884	.....	2,125,285
Union.....	23,295	22,002	21,125	854,970	651,219	773,623	.....	1,293	.....	2,170	.....	203,751	.....	81,347
Vanderburgh.....	17,896	20,076	20,892	658,565	734,441	499,704	2,180	.....	2,996	.....	75,876	.....	.....	158,861
Vermillion.....	30,899	32,767	30,358	1,048,567	1,055,456	2,262,070	1,868	.....	.....	541	.....	.....	1,213,503	.....
Vigo.....	50,134	41,600	32,290	1,352,988	1,119,070	1,066,201	.....	8,534	.....	17,844	.....	233,918	.....	296,787
Wabash.....	40,884	37,497	43,556	1,584,585	1,316,659	1,319,595	.....	3,387	.....	.....	.....	267,926	.....	265,000
Warren.....	35,577	63,159	42,772	872,685	1,928,392	1,199,405	27,582	.....	7,195	.....	1,055,707	.....	326,720	.....
Warrick.....	33,417	35,051	30,575	649,258	723,027	838,970	1,634	.....	.....	2,842	.....	.....	189,712	.....
Washington.....	29,080	31,613	34,065	749,996	515,888	839,803	2,533	.....	4,985	.....	73,769	.....	89,807	.....
Wayne.....	51,530	55,875	55,964	1,223,232	1,817,257	1,975,176	4,345	.....	4,434	.....	594,025	.....	751,944	.....
Wells.....	30,062	30,068	30,998	935,594	829,444	786,868	6	.....	936	.....	.....	106,150	.....	148,726
White.....	36,886	65,429	46,370	1,024,623	2,068,796	456,394	28,543	.....	9,484	.....	1,044,173	.....	.....	568,229
Whitley.....	22,944	22,930	23,450	619,220	711,604	786,878	.....	14	506	.....	92,384	.....	167,658	.....
Total.....	3,209,517	3,517,808	3,130,327	91,550,396	89,571,535	87,335,014	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The crop of 1880 is estimated by the Bureau by multiplying the acres, as reported by the assessors last April, by the rate per acre reported by the trustees last September and October. Where any township was not reported by the trustee, the average of those reporting was taken, unless too small a number reported—in which case the township of adjoining counties were included in the average. Much of the crop was destroyed by the floods after the acreage was reported, but how much it is impossible to say, as only the larger streams overflowed long enough to prevent replanting. The upland corn could be pretty fairly estimated at the time the trustees reported.

* Number of bushels for 1878 not reported in Marshall county, but estimated by the Bureau at the average per acre of St. Joseph and Fulton counties.

TABLE No. XII.

OATS.

Statement showing the Acres and Bushels of *Oats* for the Years 1878, 1879 and 1880, as reported by the Assessors in April of Each Year.

Counties.	Acres, 1878.	Acres, 1879.	Acres, 1880.	Bushels, 1878.	Bushels, 1879.	Bushels, 1880.	Acres, 1879.		Acres, 1880.		Bushels, 1879.		Bushels, 1880.	
							Incr'se since 1878.	Decr'se since 1878.	Incr'se since 1878.	Decr'se since 1878.	Incr'se since 1878.	Decrease since 1878.	Incr'se since 1878.	Decrease since 1878.
Adams.....	9,198	9,199	9,940	217,129	274,194	224,290	1	.....	742	.....	57,065	.....	7,161	.....
Allen.....	16,406	18,258	17,312	414,321	504,163	480,237	1,852	.....	906	.....	89,842	.....	65,916	.....
Bartholomew.....	7,211	25,596	8,778	108,358	84,152	105,729	18,385	.....	10,111	.....	.....	24,206	.....	2,629
Benton.....	12,635	12,380	16,809	310,416	399,192	375,795	.....	255	4,429	.....	88,776	.....	65,379	.....
Blackford.....	2,444	2,338	4,290	39,148	39,138	56,532	.....	108	1,846	.....	.....	10	17,384	.....
Boone.....	4,239	6,068	3,389	80,691	87,350	72,690	1,769	.....	.....	910	6,659	.....	.....	8,001
Brown.....	3,542	14,251	5,339	41,746	59,297	73,076	10,709	.....	1,797	.....	17,551	.....	31,330	.....
Carroll.....	6,109	17,489	6,282	133,684	119,148	135,912	11,380	.....	173	.....	.....	14,536	2,228	.....
Cass.....	6,037	6,222	6,823	142,768	147,206	140,402	185	.....	786	.....	4,438	.....	.....	2,366
Clark.....	11,440	16,431	9,903	181,789	147,206	161,027	.....	.....	.....	1,537	.....	36,161	.....	20,762
Clay.....	4,534	14,389	6,617	72,141	108,301	144,294	4,991	.....	2,083	.....	36,160	.....	72,153	.....
Clinton.....	7,131	28,465	6,985	154,317	147,753	176,682	9,855	.....	.....	146	.....	6,559	22,385	.....
Crawford.....	8,226	7,822	6,630	64,319	45,495	95,805	21,334	404	.....	1,596	.....	18,824	31,486	.....
Daviess.....	6,348	5,221	7,887	78,480	86,209	141,011	.....	1,127	1,539	.....	7,729	.....	62,531	.....
Dearborn.....	7,361	14,120	8,760	123,586	111,158	111,425	6,579	.....	1,399	.....	.....	12,428	12,161	.....
Decatur.....	7,146	8,526	7,947	150,750	90,121	181,979	1,380	.....	1,399	.....	.....	60,629	31,229	.....
Dekalb.....	11,988	95,899	11,489	292,481	358,628	384,145	83,901	.....	801	.....	66,147	.....	41,684	.....
Delaware.....	4,507	5,546	3,325	76,456	74,964	70,215	1,039	.....	.....	509	.....	.....	.....	6,241
Dubois.....	11,408	9,096	12,553	121,843	101,261	208,036	.....	2,312	1,145	.....	.....	1,492	86,193	.....
Elkhart.....	9,642	10,793	10,970	290,424	386,993	294,365	1,151	.....	1,328	.....	76,669	.....	3,931	.....
Fayette.....	3,296	3,848	4,358	91,540	83,768	71,967	652	.....	1,062	.....	.....	7,772	.....	19,573
Floyd.....	2,968	2,402	3,613	11,840	16,575	64,935	.....	566	645	.....	5,735	.....	53,095	.....
Fountain.....	6,294	11,112	4,832	141,091	130,589	73,670	4,818	.....	.....	1,462	.....	10,502	.....	67,421
Franklin.....	7,775	8,481	10,921	122,962	146,091	146,511	706	.....	8,156	.....	23,129	.....	23,549	.....
Fulton.....	4,412	7,132	7,038	88,019	123,429	178,226	2,720	.....	2,626	.....	40,410	.....	95,207	.....
Gibson.....	2,312	2,732	2,312	85,623	15,838	52,990	2,732	.....	17,667	.....	15,838	.....	17,367	.....

TABLE No. XII.—Continued.

Counties.	Acres, 1878.	Acres, 1879.	Acres, 1880.	Bushels, 1878.	Bushels, 1879.	Bushels, 1880.	Acres, 1879.		Acres, 1880.		Bushels, 1879.		Bushels, 1880.	
							Incr'ae since 1878.	Decr'ae since 1878.	Incr'ae since 1878.	Decr'ae since 1878.	Increase since 1878.	Decrease since 1878.	Increase since 1878.	Decrease since 1878.
Grant.....	5,449	8,827	4,007	59,030	56,422	96,890	3,378	.....	.....	1,442	.....	.....	37,860	.....
Greene.....	8,768	10,013	10,904	89,022	106,184	183,732	1,245	.....	3,136	.....	17,162	.....	94,710	.....
Hamilton.....	6,285	4,937	5,562	95,800	135,585	98,972	.....	1,948	.....	723	39,785	.....	3,172	.....
Hancock.....	2,353	1,685	3,622	61,717	45,129	83,712	.....	683	1,169	.....	.....	16,588	21,935	.....
Harrison.....	19,019	10,041	9,846	141,985	56,619	125,895	.....	8,978	.....	10,173	.....	85,346	.....	16,070
Hendricks.....	5,559	5,476	5,461	119,568	96,631	104,837	.....	83	.....	38	.....	22,937	.....	14,731
Henry.....	7,173	9,768	5,425	14,621	87,767	165,144	2,595	.....	.....	1,748	73,146	.....	.....	.....
Howard.....	3,111	2,878	3,214	43,442	78,486	68,010	.....	233	103	.....	35,044	.....	50,523	.....
Huntington.....	7,538	5,684	7,697	154,760	144,509	192,513	.....	1,904	109	.....	.....	10,241	24,568	.....
Jackson.....	11,782	10,560	12,528	137,707	118,888	302,733	.....	1,222	746	.....	.....	18,819	37,763	.....
Jasper.....	6,464	7,269	12,605	192,794	193,201	277,691	805	.....	6,141	.....	507	.....	165,026	.....
Jay.....	10,764	9,435	10,173	267,733	244,430	223,205	.....	1,329	.....	591	.....	23,303	84,897	44,528
Jefferson.....	5,518	9,358	8,121	55,302	46,070	104,963	3,540	.....	2,603	.....	.....	9,232	49,661	.....
Jennings.....	6,526	6,732	6,321	84,110	37,773	95,135	206	.....	.....	205	.....	46,337	11,025	.....
Johnson.....	2,849	4,644	5,743	44,295	33,448	143,697	1,795	.....	2,894	.....	.....	10,847	99,402	.....
Knox.....	5,262	6,656	3,277	37,697	29,661	57,609	1,304	.....	.....	1,985	.....	8,036	19,812	.....
Kosciusko.....	8,949	23,106	9,344	227,604	250,067	271,223	14,157	.....	395	.....	22,463	.....	43,619	.....
Lagrange.....	5,635	6,209	7,173	158,730	183,914	233,446	574	.....	1,538	.....	25,184	.....	74,716	.....
Lake.....	18,381	16,979	20,167	569,771	561,217	602,246	.....	1,402	1,786	.....	.....	8,554	32,464	.....
Laporte.....	11,996	20,438	13,534	226,842	277,202	332,754	8,442	526	1,538	.....	50,360	.....	166,912	.....
Lawrence.....	18,439	17,913	12,270	189,638	120,982	222,449	.....	956	.....	6,169	.....	68,656	42,811	.....
Madison.....	4,700	3,744	3,779	49,303	56,467	151,255	.....	.....	.....	921	7,164	.....	101,962	.....
Marion.....	5,469	15,244	7,028	135,968	134,559	135,971	9,775	.....	1,559	.....	.....	1,409	3	.....
Marshall.....	6,760	12,574	7,968	202,800	186,652	233,199	5,814	.....	1,208	.....	.....	16,148	30,399	.....
Martin.....	6,862	7,645	5,903	39,778	48,246	113,670	783	.....	.....	959	8,468	.....	78,892	.....
Miami.....	6,095	6,208	5,634	210,082	142,594	130,936	113	.....	.....	456	.....	67,488	.....	79,146
Monroe.....	8,406	12,511	8,858	135,700	91,154	170,270	4,106	.....	.....	48	.....	44,576	34,570	.....
Montgomery.....	7,898	7,850	6,800	184,773	162,444	140,619	.....	543	.....	1,593	.....	22,329	.....	44,164
Morgan.....	5,981	3,777	4,325	93,340	51,971	76,609	.....	2,204	.....	1,656	.....	41,369	.....	17,791
Newton.....	13,597	9,717	12,731	317,175	265,152	352,816	.....	3,880	.....	866	.....	52,028	35,641	.....
Noble.....	8,023	11,404	8,467	31,144	274,727	216,990	3,381	.....	444	.....	243,583	.....	185,846	.....
Ohio.....	696	611	1,026	8,849	7,009	7,735	.....	85	380	.....	.....	1,640	.....	914
Orange.....	15,005	11,947	12,259	290,839	102,554	198,061	.....	8,058	.....	2,746	.....	188,285	.....	97,778
Owen.....	6,981	7,473	8,161	116,761	103,887	106,474	492	.....	1,180	.....	.....	12,874	.....	10,287
Parke.....	4,478	7,312	5,460	71,638	100,011	134,353	2,784	.....	982	.....	28,373	.....	62,716	.....

Perry.....	4,964	4,089	4,783	62,533	32,892	77,549	.....	926	.....	231	.....	.....	29,641	15,016	.....
Pike.....	5,420	7,721	5,489	48,490	33,438	99,534	.....	.....	69	.....	.....	.....	15,052	51,094	.....
Porter.....	17,721	21,392	12,875	266,752	294,207	397,890	.....	.....	.....	4,846	.....	.....	.....	131,188	.....
Posey.....	2,181	2,410	11,739	38,002	18,356	292,931	.....	.....	9,608	.....	.....	.....	16,646	24,929	.....
Pulaski.....	3,221	3,165	5,184	49,989	68,356	96,812	.....	56	1,913	.....	.....	.....	.....	45,828	.....
Putnam.....	6,533	6,085	6,710	118,457	96,811	116,029	.....	.....	1,128	.....	.....	.....	22,646	.....	2,428
Randolph.....	11,080	11,968	11,539	292,655	287,802	280,258	.....	.....	459	.....	.....	.....	4,853	19,397	.....
Ripley.....	11,466	12,960	13,746	188,676	164,004	236,237	.....	.....	2,280	.....	.....	.....	24,672	47,561	.....
Rush.....	3,653	3,292	5,978	98,699	72,061	164,210	.....	361	2,825	.....	.....	.....	26,638	55,511	.....
Scott.....	4,523	4,144	4,390	78,683	19,151	63,428	.....	379	.....	133	.....	.....	59,532	.....	15,257
Shelby.....	2,519	3,257	4,863	62,480	47,565	106,312	.....	.....	2,344	.....	.....	.....	4,915	53,932	.....
Spencer.....	8,021	12,089	9,831	105,035	80,859	205,010	.....	.....	63,832	.....	.....	.....	.....	99,975	.....
Starke.....	1,606	1,198	1,636	16,075	19,825	57,162	.....	408	1,711	70	.....	.....	.....	41,077	.....
St. Joseph.....	7,219	8,003	8,980	178,431	252,674	271,034	.....	.....	.....	.....	.....	.....	.....	96,603	.....
Steuben.....	5,247	6,485	6,442	164,546	189,350	199,975	.....	.....	1,196	.....	.....	.....	.....	45,429	.....
Sullivan.....	4,594	7,472	6,762	66,698	74,047	121,047	.....	.....	2,168	.....	.....	.....	.....	54,349	.....
Switzerland.....	3,029	2,827	2,785	18,161	21,079	85,585	.....	202	.....	274	.....	.....	.....	67,404	.....
Tippecanoe.....	15,958	9,970	12,344	408,199	338,676	172,012	.....	5,982	.....	3,614	.....	.....	69,523	.....	231,187
Tipton.....	2,319	1,677	1,832	52,082	25,213	27,515	.....	642	.....	487	.....	.....	26,869	.....	24,567
Union.....	2,693	2,147	3,181	68,622	45,944	80,475	.....	546	488	.....	.....	.....	17,678	16,853	.....
Vanderburgh.....	2,764	1,143	1,984	40,541	20,789	36,500	.....	1,611	.....	820	.....	.....	19,802	.....	4,041
Vermillion.....	4,096	5,338	3,897	58,153	83,259	79,789	.....	.....	.....	199	.....	.....	.....	.....	.....
Vigo.....	4,609	5,577	5,044	129,095	84,881	152,408	.....	.....	395	.....	.....	.....	44,215	21,636	.....
Wabash.....	5,872	5,364	7,055	149,863	143,969	172,740	.....	608	1,213	.....	.....	.....	6,894	28,318	.....
Warren.....	5,759	19,717	11,173	108,156	269,340	184,136	.....	.....	5,414	.....	.....	.....	.....	22,877	.....
Warrick.....	8,046	4,245	6,794	92,225	60,871	105,576	.....	3,801	.....	2,252	.....	.....	.....	75,980	.....
Washington.....	19,117	19,850	17,046	217,751	133,662	247,140	.....	.....	.....	2,031	.....	.....	41,854	13,351	.....
Wayne.....	14,604	10,511	11,835	189,189	218,130	287,155	.....	4,093	.....	2,769	.....	.....	84,089	29,389	.....
Wells.....	4,885	6,618	4,764	107,415	151,932	129,018	.....	.....	.....	121	.....	.....	.....	97,968	.....
White.....	7,579	11,994	14,933	208,990	300,814	299,944	.....	.....	7,354	.....	.....	.....	.....	21,598	.....
Whitley.....	5,780	6,799	8,539	139,863	231,357	257,345	.....	.....	2,759	.....	.....	.....	.....	90,954	.....
Totals.....	669,562	883,492	686,901	12,290,516	11,804,049	15,563,430	.....	.....	.....	.....	.....	.....	.....	117,482	.....

TABLE No. XIII.

RYE.

Statement showing the Acres of *Rye* in 1879 and 1880, the Bushels in 1878, 1879, and in 1880, and the Increase or Decrease in Acres since 1879, and in Bushels since 1878.

Counties.	Acres—Increase and De- crease.				Bushels—Increase and Decrease since 1878.						
	Acres, 1879.	Acres, 1880.	Increase.	Decrease.	Bushels, 1878.	Bushels, 1879.	Bushels, 1880.	1879.		1880.	
								Increase since 1878.	Decrease since 1878.	Increase since 1878.	Decrease since 1878.
Adams.....	60	20	.....	40	2,634	744	314	.....	1,890	.....	2,320
Allen.....	244	191	.....	153	6,840	3,091	2,520	.....	3,749	.....	4,320
Bartholomew.....	41	87	46	.....	397	197	875	.....	200	478	.....
Benton.....	445	222	.....	223	11,915	6,690	2,705	.....	5,216	.....	9,210
Blackford.....	57	73	16	.....	790	536	1,169	.....	154	379	.....
Boone.....	244	78	.....	166	5,071	1,923	1,102	.....	3,148	.....	3,969
Brown.....	71	42	.....	29	635	319	378	.....	316	.....	257
Carroll.....	77	38	.....	39	350	355	700	5	.....	250	.....
Cass.....	97	100	3	.....	3,445	838	1,000	.....	2,607	.....	2,445
Clark.....	236	396	130	.....	2,027	803	3,874	.....	1,224	1,847	.....
Clay.....	62	60	.....	2	10,746	469	665	.....	10,277	.....	10,081
Clinton.....	99	100	1	.....	2,081	1,090	1,326	.....	991	.....	755
Crawford.....	29	38	9	.....	6,666	208	456	.....	6,458	.....	6,210
Daviess.....	41	84	43	.....	16,056	402	696	.....	15,654	.....	15,360
Dearborn.....	1,448	250	.....	1,398	9,805	3,672	2,712	.....	6,233	.....	7,093
Decatur.....	154	132	.....	22	5,118	899	1,899	.....	4,219	.....	3,219
DeKalb.....	84	53	.....	31	1,383	645	692	.....	738	.....	691
Delaware.....	176	66	.....	108	3,066	2,189	804	.....	877	.....	2,262
Dubois.....	16	17	1	.....	374	85	215	.....	289	.....	159
Elkhart.....	1,053	316	.....	1,037	5,540	3,571	2,534	.....	1,969	.....	3,006
Fayette.....	76	43	.....	33	766	899	412	133	.....	.....	354
Floyd.....	67	159	92	.....	965	436	1,347	.....	529	382	.....
Fountain.....	64	107	43	.....	2,897	124	2,155	.....	2,773	.....	742
Franklin.....	642	406	.....	236	7,082	4,320	4,091	.....	2,762	.....	2,991
Fulton.....	203	70	.....	133	2,817	1,326	927	.....	1,491	.....	1,890
Gibson.....	108	143	35	.....	989	814	1,716	.....	125	777	.....
Grant.....	102	40	.....	62	1,243	485	483	.....	758	.....	760
Greene.....	81	91	10	.....	2,018	529	1,342	.....	1,489	.....	676
Hamilton.....	45	134	89	.....	1,917	896	2,510	.....	1,091	593	.....
Hancock.....	142	62	.....	80	205	550	1,555	345	.....	1,350	.....
Harrison.....	182	297	115	.....	1,392	1,088	2,970	.....	304	1,578	.....
Hendricks.....	188	225	37	.....	8,872	2,201	2,727	.....	6,671	.....	6,145
Henry.....	12	54	42	.....	790	274	1,080	.....	516	290	.....
Howard.....	250	122	.....	128	1,575	805	1,911	.....	770	336	.....
Huntington.....	94	46	.....	48	2,567	1,870	637	.....	697	.....	1,930
Jackson.....	328	234	.....	94	2,745	1,917	2,282	.....	828	.....	463
Jasper.....	959	504	.....	445	9,109	8,968	6,014	.....	141	.....	3,095
Jay.....	80	10	.....	70	5,518	795	140	.....	4,723	.....	5,378
Jefferson.....	227	139	12	.....	573	784	3,716	211	.....	3,143	.....
Jennings.....	84	119	35	.....	587	479	1,547	.....	108	960	.....
Johnson.....	147	63	.....	84	14,767	1,985	1,202	.....	12,782	.....	13,565
Knox.....	73	120	47	.....	.....	2,323	1,825	.....	.....	1,825	.....
Kosciusko.....	132	62	.....	70	3,458	1,087	1,181	.....	2,371	.....	2,277
Lagrange.....	335	108	.....	227	2,262	2,166	2,160	.....	96	.....	102
Lake.....	1,060	739	.....	321	12,989	16,153	13,470	3,164	.....	491	.....
Laporte.....	696	492	.....	204	5,255	6,011	5,844	756	.....	589	.....
Lawrence.....	548	493	.....	55	1,949	1,578	4,774	.....	371	2,835	.....

TABLE No. XIII.—Continued.

Counties.	Acres—Increase and Decrease.				Bushels—Increase and Decrease since 1878.						
	Acres, 1879.	Acres, 1880.	Increase.	Decrease.	Bushels, 1878.	Bushels, 1879.	Bushels, 1880.	1879.		1880.	
								Increase since 1878.	Decrease since 1878.	Increase since 1878.	Decrease since 1878.
Madison.....	83	85	2	.....	3,728	1,232	1,274	.....	2,496	.....	2,454
Marion.....	150	187	37	.....	3,234	394	3,750	.....	2,840	516	.....
Marshall.....	197	129	.....	68	*.....	1,204	2,012	.....	.....	2,012	.....
Martin.....	257	61	.....	196	452	1,094	915	642	.....	463	.....
Miami.....	72	71	.....	1	1,774	952	764	.....	822	.....	1,010
Monroe.....	128	214	86	.....	1,840	526	2,696	.....	1,314	856	.....
Montgomery.....	155	182	27	.....	7,227	2,979	3,422	.....	4,248	.....	3,805
Morgan.....	261	288	27	.....	4,648	2,298	4,308	.....	2,350	.....	840
Newton.....	653	638	.....	15	10,042	6,836	9,564	.....	3,204	.....	478
Noble.....	34	108	74	.....	1,557	478	2,260	.....	1,070	703	.....
Ohio.....	281	199	.....	82	4,149	1,767	1,378	.....	2,382	.....	2,776
Orange.....	159	205	46	.....	666	491	2,171	.....	175	1,505	.....
Owen.....	108	119	11	.....	5,280	677	2,043	.....	4,553	.....	3,187
Parke.....	129	199	70	.....	2,883	1,416	3,194	.....	1,467	311	.....
Perry.....	16	80	64	.....	1,368	198	639	.....	1,170	.....	729
Pike.....	40	44	4	.....	230	226	660	.....	4	430	.....
Porter.....	952	374	.....	578	9,743	10,225	5,317	482	.....	.....	4,426
Posey.....	14	43	29	.....	*.....	145	516	.....	.....	516	.....
Pulaski.....	2,035	460	.....	1,565	8,775	6,907	4,601	.....	1,868	.....	4,174
Putnam.....	334	206	.....	128	11,373	3,663	2,456	.....	7,710	.....	8,917
Randolph.....	175	122	.....	53	3,802	1,207	2,434	.....	2,095	.....	868
Ripley.....	287	189	.....	98	5,274	2,543	2,278	.....	2,731	.....	2,996
Rush.....	30	95	65	.....	2,989	190	2,090	.....	2,799	.....	899
Scott.....	44	94	50	.....	*.....	136	1,816	.....	.....	1,316	.....
Shelby.....	450	122	.....	328	8,180	645	2,656	.....	7,535	.....	5,504
Spencer.....	139	209	70	.....	66	5,359	1,707	5,293	.....	1,641	.....
Starke.....	658	370	.....	288	860	*.....	4,615	.....	.....	3,755	.....
St. Joseph.....	182	178	.....	4	3,826	2,105	2,670	.....	1,721	.....	1,156
Steuben.....	69	47	.....	22	836	133	1,034	.....	763	198	.....
Sullivan.....	71	163	92	.....	1,249	465	2,380	.....	784	1,131	.....
Switzerland.....	1,300	984	.....	316	14,359	9,340	18,656	.....	5,019	4,297	.....
Tippecanoe.....	314	250	.....	64	*.....	2,972	3,750	.....	.....	.....	.....
Tipton.....	725	60	.....	665	1,102	1,011	929	.....	91	.....	173
Union.....	28	21	.....	7	528	225	378	.....	303	.....	150
Vanderburgh.....	*.....	67	.....	.....	20	*.....	804	.....	.....	784	.....
Vermillion.....	7	52	45	.....	2,915	121	1,020	.....	2,794	.....	1,895
Vigo.....	166	73	.....	93	353	1,496	1,111	1,143	.....	758	.....
Wabash.....	29	29	.....	.....	1,097	406	517	.....	691	.....	580
Warren.....	199	186	.....	13	5,617	2,906	3,556	.....	2,711	.....	2,058
Warrick.....	102	126	24	.....	815	426	1,643	111	.....	1,328	.....
Washington.....	67	202	135	.....	1,111	394	1,818	.....	717	707	.....
Wayne.....	494	169	.....	325	27,518	503	3,428	.....	27,015	.....	24,090
Wells.....	258	136	.....	122	7,849	1,855	2,408	.....	5,994	.....	5,441
White.....	1,126	212	.....	914	9,973	8,180	2,811	.....	1,793	.....	7,162
Whitley.....	31	35	4	.....	3,410	222	601	.....	3,178	.....	2,809
Total.....	24,107	16,028	.....	.....	371,864	172,362	217,192	.....	.....	.....	.....

* Acres of rye not reported for 1879, in Vanderburgh county; bushels of rye not reported for 1878, in Knox county; bushels of rye not reported for 1878, in Marshall county; bushels of rye not reported for 1878, in Posey county; bushels of rye not reported for 1878, in Scott county; bushels of rye not reported for 1878, in Tippecanoe county; bushels of rye not reported for 1879, in Starke county; bushels of rye not reported for 1879, in Vanderburgh county.

TABLE No. XIV.

BARLEY.

Statement showing the Acres of *Barley* in 1879 and 1880, the Bushels in 1878, 1879 and in 1880, and the Increase or Decrease in Acres since 1879, and Bushels since 1878.

Counties.	Acres—Increase and De- crease.				Bushels—Increase and Decrease since 1878.						
	Acres, 1879.	Acres, 1880.	Increase.	Decrease.	Bushels, 1878.	Bushels, 1879.	Bushels, 1880.	1879.		1880.	
								Increase since 1878.	Decrease since 1878.	Increase since 1878.	Decrease since 1878.
Adams	213	43	.....	170	168	3,195	1,161	3,027	.....	993	.....
Allen.....	336	168	.....	168	650	1,880	4,465	1,230	.....	3,815	.....
Bartholomew.....	543	315	.....	228	4,375	4,734	4,181	359	.....	.....	194
Benton.....	835	416	.....	419	140	6,295	6,240	6,155	.....	6,100	.....
Blackford.....	3	27	24	.....	.....	70	328	70	.....	328	.....
Boone.....	318	239	.....	79	3,511	2,540	3,792	.....	971	281	.....
Brown.....	7	77	70	.....	.....	160	1,386	160	.....	1,386	.....
Carroll.....	810	53	.....	757	1,185	380	1,138	.....	805	.....	47
Cass.....	186	182	.....	54	736	1,316	2,650	580	.....	1,914	.....
Clark.....	225	190	.....	35	230	104	4,750	.....	126	4,520	.....
Clay.....	199	125	.....	74	812	1,421	2,990	1,109	.....	2,678	.....
Clinton.....	127	74	.....	53	247	1,116	1,216	869	.....	969	.....
Crawford.....	189	49	.....	140	40	100	980	60	.....	940	.....
Daviess.....	135	118	.....	17	64	.....	2,540	.....	64	2,476	.....
Dearborn.....	5,643	4,482	.....	1,161	47,841	64,446	88,696	16,605	.....	40,855	.....
Decatur.....	1,688	273	.....	1,415	3,195	1,679	7,005	.....	1,516	3,810	.....
Dekalb.....	159	69	.....	90	276	304	1,460	28	.....	1,184	.....
Delaware.....	845	392	.....	453	326	208	4,704	.....	118	4,378	.....
Dubois.....	219	290	71	.....	2,567	2,725	5,858	158	.....	3,291	.....
Elkhart.....	31	41	10	.....	.....	49	451	49	.....	451	.....
Fayette.....	270	414	144	.....	965	2,906	12,821	1,941	.....	11,856	.....
Floyd.....	190	144	.....	46	310	966	3,810	656	.....	3,500	.....
Fountain.....	632	55	.....	577	85	.....	1,210	.....	85	1,125	.....
Franklin.....	3,359	3,559	200	.....	15,917	56,747	65,764	40,830	.....	49,847	.....
Fulton.....	50	55	5	.....	1,540	1,561	1,100	21	.....	.....	440
Gibson.....	65	164	99	.....	.....	1,260	4,100	1,260	.....	4,100	.....
Grant.....	228	67	.....	161	88	781	804	698	.....	716	.....
Greene.....	743	63	.....	680	50	65	1,660	15	.....	1,610	.....
Hamilton.....	17	131	114	.....	.....	340	3,930	340	.....	3,930	.....
Hancock.....	384	463	79	.....	4,101	7,089	13,225	2,988	.....	9,124	.....
Harrison.....	203	259	56	.....	4,092	824	6,670	.....	3,268	2,578	.....
Hendricks.....	8	38	30	.....	.....	97	1,140	97	.....	1,140	.....
Henry.....	368	314	.....	54	95	1,838	9,775	1,738	.....	9,680	.....
Howard.....	573	72	.....	501	902	186	2,016	.....	716	1,114	.....
Huntington.....	81	147	66	.....	1,407	2,457	3,482	1,050	.....	2,075	.....
Jackson.....	96	110	14	.....	30	746	1,100	716	.....	1,070	.....
Jasper.....	153	225	72	.....	230	2,815	2,250	2,585	.....	2,020	.....
Jay.....	79	59	.....	20	383	1,870	1,130	1,487	.....	747	.....
Jefferson.....	3,386	1,715	.....	1,671	11,600	13,649	42,967	2,049	.....	31,367	.....
Jennings.....	35	80	45	.....	500	122	1,600	.....	378	1,100	.....
Johnson.....	60	33	.....	27	.....	1,000	664	1,000	.....	664	.....
Knox.....	803	317	.....	486	213	66	5,606	.....	147	5,393	.....
Kosciusko.....	4,389	193	.....	4,196	166	1,308	4,278	1,142	.....	4,112	.....
Lagrange.....	368	32	.....	336	30	2	576	.....	28	546	.....
Lake.....	6	75	69	.....	.....	104	1,125	104	.....	1,125	.....

TABLE No. XIV.—Continued.

Counties.	Acres—Increase and De- crease.				Bushels—Increase and Decrease since 1878.						
	Acres, 1879.	Acres, 1880.	Increase.	Decrease.	Bushels, 1878.	Bushels, 1879.	Bushels, 1880.	1879.		1880.	
								Increase since 1878.	Decrease since 1878.	Increase since 1878.	Decrease since 1878.
Laporte.....	400	529	129	.....	100	3,531	6,222	3,431	.....	6,122	.....
Lawrence.....	147	158	11	.....	18	60	1,738	44	.....	1,720	.....
Madison.....	469	423	.....	46	19,752	8,022	15,755	.....	16,730	.....	3,997
Marion.....	1,867	515	.....	352	7,800	10,315	15,970	3,015	.....	8,670	.....
Marshall.....	191	485	294	.....	.....	730	13,086	730	.....	13,086	.....
Martin.....	585	42	.....	43	.....	50	810	50	.....	810	.....
Miami.....	234	170	.....	64	2,126	5,433	4,302	3,307	.....	2,176	.....
Monroe.....	364	31	.....	333	15	202	640	187	.....	625	.....
Montgomery.....	204	152	.....	52	931	1,835	3,344	904	.....	2,413	.....
Morgan.....	115	412	327	.....	.....	2,150	15,540	2,150	.....	15,540	.....
Newton.....	156	63	.....	93	419	265	706	.....	154	287	.....
Noble.....	1,435	128	.....	1,307	200	460	2,272	260	.....	2,072	.....
Ohio.....	763	636	.....	127	5,707	13,034	16,351	7,327	.....	10,644	.....
Orange.....	135	14	.....	121	.....	27	210	27	.....	210	.....
Owen.....	5	8	3	.....	.....	40	280	40	.....	280	.....
Parke.....	193	61	.....	132	438	1,169	1,342	721	.....	904	.....
Perry.....	287	381	94	.....	2,052	3,267	7,616	1,215	.....	5,464	.....
Pike.....	179	66	.....	113	.....	4	1,188	4	.....	1,188	.....
Porter.....	1,069	191	.....	878	1,200	1,002	2,955	.....	1,198	1,755	.....
Posey.....	299	155	.....	144	160	1,988	3,875	1,828	.....	3,715	.....
Pulaski.....	894	260	.....	634	.....	667	2,600	667	.....	2,600	.....
Putnam.....	320	14	.....	306	.....	8	316	8	.....	316	.....
Randolph.....	117	211	124	.....	1,608	2,783	5,184	1,175	.....	3,576	.....
Ripley.....	265	75	.....	190	100	1,343	1,500	1,243	.....	1,400	.....
Rush.....	387	1,070	683	.....	7,873	9,634	26,750	1,761	.....	18,877	.....
Scott.....	108	60	.....	48	.....	58	1,390	58	.....	1,390	.....
Shelby.....	2,482	2,133	.....	349	29,916	32,018	50,174	2,097	.....	20,258	.....
Spencer.....	2,311	847	.....	1,464	4,029	7,248	14,488	3,219	.....	10,459	.....
Starke.....	485	100	.....	385	85	43	1,200	.....	42	1,115	.....
Steuben.....	40	40	.....	.....	300	1,233	760	933	.....	460	.....
St. Joseph.....	1,313	607	.....	716	5,262	12,050	14,779	6,788	.....	9,517	.....
Sullivan.....	100	360	260	.....	28	.....	6,480	.....	28	6,452	.....
Switzerland.....	457	566	109	.....	1,094	3,508	14,068	2,414	.....	12,974	.....
Tippecanoe.....	115	198	83	.....	.....	1,596	3,102	1,596	.....	3,102	.....
Tipton.....	300	264	.....	36	.....	100	5,600	100	.....	5,600	.....
Union.....	573	690	117	.....	7,161	10,906	20,338	3,745	.....	13,177	.....
Vanderburgh.....	31	14	.....	17	50	900	294	850	.....	244	.....
Vermillion.....	283	182	.....	101	6	87	4,004	81	.....	3,998	.....
Vigo.....	62	33	.....	29	.....	200	660	200	.....	660	.....
Wabash.....	242	233	.....	9	1,653	1,017	5,625	.....	636	3,972	.....
Warren.....	1,183	161	.....	1,012	10	825	2,793	815	.....	2,783	.....
Warrick.....	59	56	.....	3	3,000	1,299	1,176	.....	1,701	.....	1,824
Washington.....	7	176	169	.....	.....	170	2,640	170	.....	2,640	.....
Wayne.....	1,122	886	.....	236	11,438	13,058	29,726	1,620	.....	18,388	.....
Wells.....	654	476	.....	178	99	988	15,757	889	.....	15,658	.....
White.....	1,253	205	.....	1,048	436	920	2,301	484	.....	1,865	.....
Whitley.....	.....	55	55	.....	2,530	2	1,210	.....	2,528	.....	1,320
Total.....	53,517	31,019	.....	.....	225,663	343,751	687,911	.....	.....	.....	.....

TABLE No. XV.

Statement showing the Acreage and Tonnage of Meadows and Hay from 1877 to 1880, inclusive, together with the Increase and Decrease of Each since 1877, as reported by the Assessors in April of each year.

Counties.	Acres of Meadow.		1878.		Tons of Hay.		1878.	
	1877.	1878.	Increase since 1877.	Decrease since 1877.	1877.	1878.	Increase since 1877.	Decrease since 1877.
Adams	11,682	13,789	2,107	.....	15,692	13,036	.....	2,656
Allen	28,341	27,087	.....	1,254	23,346	23,366	20	.....
Bartholomew	10,714	9,646	.....	1,068	8,861	8,005	.....	856
Benton	9,278	10,193	915	.....	5,426	5,605	179	.....
Blackford	3,717	4,057	340	.....	5,295	3,498	.....	1,797
Boone	12,346	10,362	.....	1,984	28,155	11,905	.....	16,250
Brown	6,470	6,028	.....	442	3,436	3,716	280	.....
Carroll	10,625	10,445	.....	180	13,591	10,463	.....	3,128
Cass	13,078	13,848	770	.....	14,038	12,165	.....	1,873
Clark	14,587	14,481	.....	106	8,302	12,325	4,023	.....
Clay	14,146	13,157	.....	989	11,536	11,439	.....	87
Clinton	11,671	10,161	.....	1,570	14,047	10,161	.....	3,886
Crawford	7,384	6,087	.....	1,297	2,786	3,357	571	.....
Davies	12,301	12,554	253	.....	11,304	8,015	.....	3,289
Dearborn	15,235	15,545	310	.....	9,483	12,088	2,605	.....
Decatur	13,016	11,259	.....	1,757	13,338	10,948	.....	2,390
DeKalb	17,493	15,724	.....	2,769	18,687	17,144	.....	1,543
Delaware	10,643	13,560	2,917	.....	11,231	15,225	3,994	.....
Dubois	10,695	9,359	.....	1,336	5,855	5,665	.....	190
Elkhart	18,610	18,189	.....	421	21,576	22,449	873	.....
Fayette	6,530	5,277	.....	1,253	6,499	5,640	.....	859
Floyd	3,628	4,417	789	.....	1,675	1,214	.....	461
Fountain	12,634	11,056	.....	1,578	11,493	10,980	.....	513
Franklin	10,586	9,048	.....	1,538	6,747	7,404	657	.....
Fulton	11,669	9,473	.....	2,196	11,582	11,474	.....	108
Gibson	9,996	7,899	.....	2,087	10,406	9,989	.....	517
Grant	18,645	13,256	.....	5,389	11,614	11,121	.....	493
Greene	21,082	16,500	.....	4,582	6,218	7,580	1,362	.....
Hamilton	13,771	12,998	.....	773	20,394	21,075	681	.....
Hancock	9,082	7,667	.....	1,415	9,704	7,831	.....	1,873
Harrison	11,196	15,705	4,609	.....	5,598	6,085	487	.....
Hendricks	16,718	12,859	.....	3,859	13,683	12,154	.....	1,529
Henry	13,384	11,703	.....	1,681	14,147	10,375	.....	3,772
Howard	13,908	7,309	.....	5,599	6,811	6,185	.....	626
Huntington	7,927	13,230	5,303	.....	14,308	18,297	.....	1,011
Jackson	12,791	13,644	853	.....	8,686	6,680	.....	2,006
Jasper	12,409	14,413	2,004	.....	20,672	15,951	.....	4,721
Jay	12,402	12,867	465	.....	11,051	9,546	.....	1,505
Jefferson	11,111	20,378	9,267	.....	10,250	116,463	106,213	.....
Jennings	15,765	14,264	.....	1,501	13,746	10,335	.....	3,411
Johnson	10,449	8,083	.....	2,366	10,164	7,742	.....	2,422
Knox	11,057	16,045	5,988	.....	7,854	12,281	4,427	.....
Kosciusko	17,044	21,252	4,208	.....	17,807	27,502	9,695	.....
Lagrange	16,151	13,966	.....	2,185	17,676	15,995	.....	1,681
Lake	28,735	26,827	.....	1,908	46,448	44,999	.....	1,449
Laporte	16,492	17,437	945	.....	12,552	20,472	7,920	.....
Lawrence	1,001	10,001	9,000	.....	5,046	6,502	1,456	.....
Madison	12,447	10,787	.....	1,690	3,872	4,603	731	.....
Marion	18,118	17,172	.....	946	4,960	21,465	16,505	.....
Marshall	9,200	8,075	.....	1,125	9,315	.....	.....	.....
Martin	7,384	6,738	.....	646	5,985	3,199	.....	2,786

TABLE No. XV.—Continued.

Counties.	Acres of Meadow.		1878.		Tons of Hay.		1878.	
	1877.	1878.	Increase since 1877.	Decrease since 1877.	1877.	1878.	Increase since 1877.	Decrease since 1877.
Miami	11,067	11,832	765	.....	9,382	10,074	692	.....
Monroe	23,850	13,120	.....	10,730	7,269	6,791	.....	468
Montgomery	82,163	16,885	.....	15,278	57,164	19,357	.....	38,807
Morgan	10,756	10,350	.....	406	6,721	6,697	.....	24
Newton	11,477	10,505	.....	972	9,320	13,317	3,997	.....
Noble	16,517	15,074	.....	1,443	19,532	17,311	.....	2,221
Ohio	5,381	4,382	.....	999	3,068	2,896	.....	172
Orange	8,481	9,748	1,317	.....	3,451	36,587	33,136	.....
Owen	19,321	15,917	.....	3,404	10,833	10,629	.....	204
Parke	13,225	11,801	.....	1,424	12,662	10,810	.....	1,852
Perry	6,674	5,649	.....	1,025	5,494	5,221	.....	273
Pike	7,263	6,389	.....	874	4,548	3,873	.....	675
Porter	18,216	19,002	786	.....	23,008	20,840	.....	2,168
Posey	6,629	8,564	1,935	.....	4,960	3,847	.....	1,113
Pulaski	1,716	5,611	3,995	.....	2,239	6,509	4,270	.....
Putnam	12,033	14,267	2,234	.....	7,076	37,866	30,790	.....
Randolph	12,663	11,546	.....	1,117	11,448	9,498	.....	1,950
Ripley	20,870	21,450	580	.....	15,291	16,414	1,123	.....
Rush	10,424	8,871	.....	1,553	11,364	7,066	.....	4,298
Scott	5,061	5,415	361	.....	3,138	4,340	1,202	.....
Shelby	10,005	10,960	955	.....	10,106	9,408	.....	698
Spencer	10,474	11,106	632	.....	9,942	9,741	.....	201
Starke	1,740	3,220	1,480	.....	5,070	3,350	.....	1,720
St. Joseph	17,222	15,525	.....	1,697	20,028	19,524	.....	504
Steuben	13,835	11,718	.....	2,117	23,945	13,871	.....	10,074
Sullivan	? 116,857	11,391	.....	105,466	9,471	10,030	559	.....
Switzerland	14,835	13,676	.....	1,159	6,756	8,854	2,098	.....
Tipton	6,398	12,708	6,310	.....	20,794	7,729	.....	13,065
Tippecanoe	20,417	27,662	7,245	.....	4,698	36,540	31,842	.....
Union	4,053	3,848	.....	205	4,181	3,816	.....	365
Vanderburgh	9,489	9,883	394	.....	11,086	10,974	.....	112
Vermillion	7,449	6,941	.....	508	8,245	6,562	.....	1,683
Vigo	*	11,848	.....	.....	.....	10,403	.....	.....
Wabash	15,163	13,831	.....	1,332	16,388	13,990	.....	2,398
Warren	9,556	8,701	.....	855	6,960	7,528	568	.....
Warrick	18,411	13,537	.....	4,874	13,641	19,515	6,874	.....
Washington	27,875	21,585	.....	6,290	9,044	9,651	507	.....
Wayne	14,461	15,479	1,018	.....	12,515	8,418	.....	4,097
Wells	13,744	13,064	.....	680	13,231	17,191	3,960	.....
White	15,614	10,088	.....	5,526	10,258	11,423	1,165	.....
Whitley	15,079	13,255	.....	1,824	10,377	11,240	863	.....
Totals	1,161,781	1,122,281	.....	.....	1,057,592	1,186,317	.....	.....

NOTE.—The crop of 1877 is taken from the report of Auditor of State.

* Acres for 1877, in Vigo county, not reported.

? The acres of meadow (116,857) reported for Sullivan county for 1877 is without doubt a mistake—clerical or otherwise.

TABLE No. XV.—Continued.

Statement of Acreage and Tonnage of Meadow and Hay.—Continued.

Counties.	Acres of Meadow.		1879.		1880.		Tons of Hay.		1879.		1880.	
	1879.	1880.	Increase since 1877.	Decrease since 1877.	Increase since 1877.	Decrease since 1877.	1879.	1880.	Increase since 1877.	Decrease since 1877.	Increase since 1877.	Decrease since 1877.
Adams.....	11907	8668	225				3041	14960	13892		732	1800
Allen.....	26510	26510		1831			1831	31478	34093	8132		9747
Bartholomew.....	7812	8584		2902			2130	5844	14777		3017	5916
Benton.....	10377	12511	1099		3233		10939	18834	5513		13407	
Blackford.....	4297	5243	580		1526		4952	9053		343	3758	
Boone.....	10156	8104		2190		4242	8592	12285		19563		15890
Brown.....	5282	7279		1188	809		3102	9566		334	6130	
Carroll.....	12270	7223	1645			3402	12404	11074		1187		2517
Cass.....	10167	9894		2911		384	12815	14243		1223	205	
Clark.....	10281	9685		4306		4902	5952	14442		2350	6140	
Clay.....	11824	12006		2252		2140	10581	24829		945	13293	
Clinton.....	9254	8553		2417		3118	9236	11039		4811		3008
Crawford.....	10464	4220	3080			3164	2137	8002		649	5816	
Daviess.....	10735	10248		1566		2053	6980	16083		4324	4777	
Dearborn.....	14982	15715		253	480		9863	16171	380		6888	
Decatur.....	14800	8864	1884			4152	10665	15796		3273	2448	
DeKalb.....	14609	8555		2684		8938	17395	1337		1292		5380
Delaware.....	9515	9242		1128		1401	12021	12080	790		849	
Dubois.....	9830	5628		865		5067	7195	11208	1340		533	
Elkhart.....	16795	7800		1815		10810	23466	13274	1890			8302
Fayette.....	5641	4455		886		2075	6378	7012		121	513	
Floyd.....	3413	3695		215	67		2869	6357	1194		4782	
Fountain.....	9459	9214		8175		320	9045	13958		2448	2465	
Franklin.....	9381	8329		1202		2257	8121	9562	1374		2815	
Fulton.....	7413	3917		4256		7752	13959	7775	2377			3807
Gibson.....	29313	6393	19317			3603	6361	8252				2154
Grant.....	8356	7527		10289		11118	8248	13590		3366	1974	
Greene.....	12750	15124		8332		5958	10800	22281	4582		16063	
Hamilton.....	9953	14889		3818		2282	1120	17480		8874		2914
Hancock.....	6536	5229		2546		3853	6861	8584		2843		1120
Harrison.....	8806	6243		2390		4953	3332	6923		2266	1325	
Hendricks.....	13653	13882		3065		2836	12752	19915		931	6222	
Henry.....	9148	7325		4236		6059	10945	10275		8202		3872
Howard.....	6227	5867		7681		8041	7786	8782	975		1971	
Huntington.....	13385	11397	5458		3470		16652	17055	2344		2747	
Jackson.....	12413	9748		878		3043	5202	18005		3484	9319	
Jasper.....	13507	8186	1098			4223	18260	10645		2412		10027
Jay.....	12002	10557		400		1815	10754	14802		297	3751	
Jefferson.....	12763	11718	1652		607		8274	16889		1976	6689	
Jennings.....	9782	9559		5982		6206	6187	10662		7559		3084
Johnson.....	6640	5595		3809		4854	5328	7236		4836		2828
Knox.....	6458	6241		4599		4816	6017	10001		1837	2147	
Kosciusko.....	16123	6554		921		10490	19862	11217	2065			6590
Lagrange.....	13150	4580		3001		1571	17777	8649	101			9127
Lake.....	27309	17410		1426		11325	41578	22575		4870		23573
Laporte.....	18718	10044	2226			6448	23774	15135	11222		2583	
Lawrence.....	10037	10983	9036		9982		4942	26786		104	21740	
Madison.....	9804	8397		2673		4080	11105	12452	7233		8580	
Marion.....	15477	15743		2641		2375	18342	22391	13382		17431	
Marshall.....	9217	6174	17			3026	12726	11644	3411		2329	
Martin.....	4180	6251		3204		1133	2770	10033		3215	4048	
Miami.....	10483	7970		584		3097	12277	12715	2895		3333	
Monroe.....	20784	11912		3066		11938	6138	19346		1121	12087	
Montgomery.....	15755	1346		16408		18657	15210	24141		41954		33028
Morgan.....	7948	9043		2808		1713	5821	12971		900	6250	
Newton.....	9454	7987		2023		8190	16769	12216	7449		2896	
Noble.....	15192	8943		1325		7574	20432	13933	900			5539
Ohio.....	3311	3697		2070		1684	1864	4468		1204	1400	
Orange.....	8159	5225		272		3206	3943	731	492		3870	
Owen.....	15971	15307		3350		4014	10719	22368		114	11535	
Parke.....	9978	10064		3247		3161	11418	16270		1244	3606	

TABLE No. XV.—Continued.

Counties.	Acres of Meadow.		1879.		1880.		Tons of Hay.		1879.		1880.	
	1879.	1880.	Increase since 1877.	Decrease since 1877.	Increase since 1877.	Decrease since 1877.	1879.	1880.	Increase since 1877.	Decrease since 1877.	Increase since 1877.	Decrease since 1877.
Perry.....	4819	4047	.....	1856	.....	2627	2282	6008	.....	2212	514	.....
Pike.....	9261	6244	1998	.....	.....	1019	4022	9744	.....	526	5196	.....
Porter.....	15683	9994	.....	2533	.....	8222	22859	15347	.....	149	.....	7661
Posey.....	4223	4407	.....	2406	.....	2222	5064	6874	104	.....	1914	.....
Pulaski.....	8626	3008	6910	.....	1292	.....	18462	5698	16223	.....	3459	.....
Putnam.....	18567	13543	1534	.....	1510	.....	12858	20625	5782	.....	.....	1294
Randolph.....	9840	9350	.....	2823	.....	3313	11219	16724	.....	229	5272	.....
Ripley.....	21208	17393	338	.....	.....	3477	13271	23218	.....	2020	7927	.....
Rush.....	9816	8111	.....	608	.....	2313	10759	12713	.....	606	1349	.....
Scott.....	4715	3751	.....	339	.....	1303	1747	5064	.....	1391	1926	.....
Shelby.....	7025	5620	.....	2980	.....	4385	6651	9484	.....	3455	.....	622
Spencer.....	10002	7838	.....	472	.....	3136	11475	9854	.....	.....	.....	88
Starke.....	1572	579	.....	168	.....	1161	9248	1184	4178	.....	.....	3886
St. Joseph.....	16605	7136	.....	627	.....	10086	22215	13420	2183	.....	.....	6608
Steuben.....	13761	6866	.....	74	.....	6969	17435	10929	.....	6510	.....	13016
Sullivan.....	7876	8021	.....	108981	.....	108836	9675	14685	204	.....	5214	.....
Switzerland.....	9877	8675	.....	4956	.....	6100	4722	8688	.....	2034	1932	.....
Tipton.....	6270	4858	.....	128	.....	1540	6183	5199	.....	14611	.....	15695
Tippecanoe.....	12811	13016	.....	7606	.....	7401	12274	14148	.....	.....	9450	.....
Union.....	4117	2805	.....	64	.....	1248	4104	3148	.....	57	.....	1013
Vanderburgh.....	7072	5036	.....	2417	.....	4453	8541	7289	.....	2545	.....	3797
Vermillion.....	5615	5486	.....	1834	.....	1963	5517	7027	.....	2728	.....	1218
Vigo.....	7066	6732	.....	.....	.....	.....	7164	11557	.....	.....	11557	.....
Wabash.....	18217	9937	3054	.....	.....	5226	1334	17522	.....	3023	1154	.....
Warren.....	10640	11601	1081	.....	2045	.....	12404	15765	5844	.....	8805	.....
Warrick.....	10805	9482	.....	8106	.....	8929	8753	13922	.....	4888	281	.....
Washington.....	16763	14931	.....	11112	.....	12944	5624	21682	.....	3520	12638	.....
Wayne.....	11841	11324	.....	2620	.....	3187	12383	15434	.....	132	2919	.....
Wells.....	15157	10714	1413	.....	.....	3030	17440	15524	4209	.....	2293	.....
White.....	12878	11979	.....	2736	.....	3635	13695	19378	3437	.....	9120	.....
Whitley.....	11618	8542	.....	3161	.....	6537	15255	15804	4878	.....	5427	.....
Total.....	1011835	795438	.....	.....	.....	.....	970932	1221164	.....	.....	.....	.....

TABLE No. XVI.

Statement showing the Acres of Clover and the Native Grasses, with the Increase or Decrease in the acreage of Clover since 1879, as shown by the Assessors in April, 1880.

Counties.	Clover.				Acres of Blue and Wild Grass.	Acres of Idle Plow Land in 1880.	Acres of Land cleared for the plow during 1879.	Acres of Timber Land, whether fenced or unfenced.
	Acres in 1879.	Acres in 1880.	Inc.	Dec.				
Adams.....	4,283	6,555	2,272	.....	3,008	6,980	1,767	56,573
Allen.....	9,919	13,552	3,633	.....	6,423	11,857	3,060	108,132
Bartholomew.....	4,792	9,124	4,332	.....	11,024	10,341	5,767	57,546
Benton.....	93	720	627	.....	47,140	4,545	4,827	4,458
Blackford.....	337	1,255	918	.....	1,521	2,897	1,132	35,918
Boone.....	2,503	7,292	4,789	.....	27,971	3,543	2,315	49,214
Brown.....	190	1,701	1,511	.....	10,647	3,192	2,142	38,548
Carroll.....	3,099	10,264	7,165	.....	4,519	4,425	1,920	53,356
Cass.....	3,714	9,472	5,758	.....	9,286	3,322	2,293	62,183
Clark.....	1,732	4,132	2,400	.....	16,690	12,528	1,947	60,173
Clay.....	1,310	5,042	3,732	.....	13,593	5,270	2,155	47,358
Clinton.....	3,343	11,606	8,262	.....	9,675	7,424	3,219	53,853
Crawford.....	227	932	705	.....	5,484	6,205	1,487	50,005
Davless.....	1,185	6,378	5,193	.....	14,684	7,007	4,428	59,511
Dearborn.....	2,288	4,415	2,127	.....	17,908	3,219	1,678	40,929
Decatur.....	5,381	14,883	9,502	.....	28,395	12,018	2,467	38,864
Dekalb.....	8,235	11,025	2,790	.....	4,200	11,557	2,181	47,046
Delaware.....	2,687	8,492	5,805	.....	11,906	7,306	2,797	41,891
Dubois.....	2,050	4,716	2,666	.....	6,768	6,627	1,817	73,883
Elkhart.....	13,089	24,142	11,053	.....	3,765	13,831	2,367	40,138
Fayette.....	8,024	11,267	3,243	.....	14,153	19,932	557	25,778
Floyd.....	228	932	704	.....	2,185	3,632	176	21,923
Fountain.....	1,906	16,195	14,290	.....	17,980	4,161	2,282	47,312
Franklin.....	4,596	10,204	5,608	.....	18,841	11,288	1,955	62,675
Fulton.....	5,200	8,205	3,005	.....	5,830	5,138	1,969	25,791
Gibson.....	5,622	11,402	5,780	.....	6,023	2,216	3,220	48,461
Grant.....	2,691	6,236	3,545	.....	7,546	6,780	2,262	48,049
Greene.....	1,071	5,679	4,608	.....	28,300	13,623	2,937	56,805
Hamilton.....	3,729	10,258	6,529	.....	13,494	4,190	1,913	59,760
Hancock.....	2,504	8,668	6,159	.....	10,201	1,953	908	39,434
Harrison.....	2,680	6,477	3,797	.....	6,041	20,671	2,998	81,807
Hendricks.....	3,841	11,162	7,321	.....	63,617	7,243	1,590	65,679
Henry.....	7,263	13,637	6,374	.....	12,941	13,524	2,274	51,075
Howard.....	2,960	6,128	3,168	.....	7,994	2,301	2,353	39,230
Huntington.....	5,273	11,773	6,500	.....	5,863	10,974	2,581	74,242
Jackson.....	1,075	4,627	3,552	.....	18,310	7,469	5,611	79,389
Jasper.....	88	1,872	1,784	.....	29,768	5,111	2,229	23,217
Jay.....	2,221	6,639	4,418	.....	4,881	4,664	4,216	61,260
Jefferson.....	427	2,840	2,413	.....	22,950	8,194	2,027	47,931
Jennings.....	595	3,093	2,498	.....	15,964	11,841	1,974	42,558
Johnson.....	3,685	11,946	8,261	.....	20,057	2,096	1,188	51,900
Knox.....	2,780	7,100	4,320	.....	10,171	2,592	4,296	60,103
Kosciusko.....	7,779	14,568	6,789	.....	11,873	14,014	5,995	52,275
Lagrange.....	11,935	22,296	10,361	.....	5,562	11,581	2,515	42,089
Lake.....	1,081	2,267	1,186	.....	35,577	4,146	5,904	26,066
Laporte.....	3,586	8,124	4,538	.....	29,924	13,447	3,343	33,457
Lawrence.....	946	5,309	4,363	.....	48,684	11,903	2,471	55,616
Madison.....	2,617	8,848	6,231	.....	16,757	4,728	2,571	63,049
Marion.....	3,067	8,914	5,847	.....	18,176	2,640	1,481	47,859
Marshall.....	6,907	8,959	2,052	.....	5,137	6,293	3,041	48,208
Martin.....	398	2,726	2,328	.....	16,016	6,736	2,435	41,053
Miami.....	7,265	15,257	7,992	.....	9,092	11,013	2,170	52,117
Monroe.....	777	3,245	2,468	.....	41,004	11,420	1,565	49,196
Montgomery.....	4,769	18,740	8,971	.....	54,219	6,205	1,850	56,847
Morgan.....	2,739	8,633	5,894	.....	32,827	4,666	2,047	54,733

TABLE No. XVI.—Continued.

Counties.	Clover.				Acres of Blue and Wild Grass.	Acres of idle Plow Land in 1880.	Acres of Land cleared for the plow during 1879.	Acres of Timber Land, whether fenced or un- fenced,
	Acres in 1879.	Acres in 1880.	Inc.	Dec.				
Newton.....	334	1,332	998	.....	25,326	1,192	1,533	11,681
Noble.....	8,582	13,153	4,621	.....	10,523	11,431	1,961	56,587
Ohio.....	153	955	802	.....	6,002	1,563	248	12,531
Orange.....	659	2,822	2,163	.....	30,819	10,344	2,186	70,243
Owen.....	1,184	3,972	2,788	.....	57,144	5,872	957	61,078
Parke.....	2,713	9,126	6,413	.....	42,770	5,665	3,078	67,740
Perry.....	614	84	.....	530	1,645	5,194	1,789	57,501
Pike.....	2,409	5,305	2,896	.....	4,999	8,723	2,301	55,250
Porter.....	1,537	5,010	3,473	.....	10,014	7,381	2,274	22,314
Posey.....	7,131	11,265	4,134	.....	1,533	2,987	2,560	44,688
Pulaski.....	1,975	2,036	123	.....	15,394	4,230	1,877	14,076
Putnam.....	2,084	9,781	7,677	.....	96,871	6,930	1,046	71,199
Randolph.....	5,848	12,140	6,292	.....	10,466	5,587	2,544	66,895
Ripley.....	377	2,606	2,229	.....	23,469	7,437	2,252	69,183
Rush.....	9,293	18,392	9,099	.....	28,250	6,697	921	56,741
Scott.....	240	921	681	.....	3,266	7,228	2,442	23,683
Shelby.....	5,462	10,663	5,201	.....	10,311	1,798	1,914	42,202
Spencer.....	1,614	5,059	3,445	.....	3,726	7,485	2,804	50,237
Starke.....	343	1,154	811	.....	4,269	894	907	7,064
St. Joseph.....	8,319	17,346	9,037	.....	11,368	10,275	2,347	43,958
Steuben.....	7,749	17,826	10,077	.....	33,768	15,168	1,269	47,973
Sullivan.....	4,011	7,909	3,898	.....	20,443	4,874	3,793	46,867
Switzerland.....	574	1,864	1,290	.....	15,518	3,603	1,022	21,866
Tippecanoe.....	2,102	7,704	5,602	.....	18,167	4,738	2,611	27,659
Tipton.....	1,051	3,318	2,267	.....	10,471	2,729	1,458	37,429
Union.....	3,807	8,609	5,302	.....	5,252	4,268	521	17,873
Vanderburgh.....	2,398	8,402	1,004	.....	549	2,003	889	15,631
Vermillion.....	297	2,161	1,804	.....	10,369	1,331	1,404	24,988
Vigo.....	1,005	3,056	2,051	.....	7,651	1,861	2,986	32,089
Wabash.....	5,162	15,199	10,037	.....	7,828	9,023	3,353	68,453
Warren.....	763	5,251	4,488	.....	42,593	1,709	2,853	21,156
Warrick.....	3,495	9,060	5,562	.....	2,282	8,555	2,756	53,056
Washington.....	872	4,718	4,346	.....	23,896	28,500	2,552	80,852
Wayne.....	13,471	15,920	2,449	.....	21,142	11,369	1,495	47,265
Wells.....	4,256	7,690	3,434	.....	5,362	9,161	3,114	68,678
White.....	336	1,719	1,383	.....	25,700	4,772	2,670	18,697
Whitley.....	5,465	8,549	3,084	.....	6,043	9,936	1,798	52,745
Total.....	309,419	712,047	.....	.....	1,577,882	652,782	215,140	4,335,161

TABLE No. XVII.

Statement showing the Acreage of Beans, Onions, Berries, Orchards, Gardens, Door and Barn Yards, by Counties, as reported by the Assessors, April, 1880.

Counties.	Acres of Castor Beans.	Acres of Navy, Bunch or Corn Beans.	Acres of Onions.	Acres of Cranberries.	Acres of Strawberries.	Acres of Black, Rasp., and other tame Berries.	Acres of Door-yard, Barn-yard and Garden.	Acres of Orchards.
Adams.....	1	3	.....	.....	.....	9	2,047	2,708
Allen.....	1	3	4	18	10	102	4,749	7,391
Bartholomew.....	.....	26½	47¼	8½	3¼	9¾	2,258¼	3,315¾
Benton.....	.....	22½	¼	.....	2	8	1,440	886
Blackford.....	.....	.....	.....	14	.....	2	861	1,105
Boone.....	.....	10	3	21	14	9	2,556	2,441
Brown.....	17	401	37	19	90	5	1,079	1,922
Carroll.....	1	8	.....	.....	5	10	2,214	2,660
Cass.....	.....	15½	4½	.....	53½	12	2,710	3,488½
Clark.....	4	26	11	1	7	8	2,017	4,520
Clay.....	2	24	.....	.....	14	13	1,823	2,560
Clinton.....	.....	4	1	1	4	5	2,507	2,786
Crawford.....	6	165	16	11	10	83	860	3,601
Daviess.....	1½	71½	¼	.....	3¼	5½	3,834¾	8,168½
Dearborn.....	.....	35	1	.....	13	19	2,276	3,512
Decatur.....	.....	26	1	.....	6	16	2,388	2,087
Dekalb.....	10	3	1	12	1	24	2,088	3,746
Delaware.....	2	25	5	1	2	3	2,031	2,615
Dubois.....	.....	780	.....	.....	.....	13	1,712	2,705
Elkhart.....	1	2	6	11	42	48	2,687	5,657
Fayette.....	.....	16	2	.....	4	34	1,801	3,800
Floyd.....	3	12	120	2	128	91	962	3,388
Fountain.....	.....	32	.....	1	3	9	2,029	2,217
Franklin.....	.....	63	2	1	8	14	2,373	3,543
Fulton.....	3	136	.....	12	16	7	1,480	1,871
Gibson.....	1	12	2	.....	2	3	4,867	2,342
Grant.....	.....	20	2	.....	11	29	1,977	2,509
Greene.....	3	274	10	14	2	28	2,241	3,790
Hamilton.....	4	86	18	1	7	27	3,305	3,214
Hancock.....	.....	2	.....	.....	.....	4	2,106	2,208
Harrison.....	1	37	14	.....	15	280	1,992	6,207
Hendricks.....	2	47	5	.....	6	11	3,709	3,825
Henry.....	.....	32	4	1	13	255	2,981	3,966
Howard.....	.....	11½	.....	.....	12¼	49	2,710¼	2,686½
Huntington.....	2	7	.....	.....	10	18	2,871¾	4,044¾
Jackson.....	.....	140	2½	.....	17	52	2,267	4,575
Jasper.....	1	14	2	1	1	8	1,661	1,528
Jay.....	.....	12	.....	2	.....	1	2,330	3,451
Jefferson.....	3	41¾	8½	2½	35	80½	2,242½	6,238
Jennings.....	1	22	.....	.....	2	108	1,610	2,441
Johnson.....	1	83	3	.....	15	10	2,931	2,773
Knox.....	.....	87	46	.....	21	130	2,399	1,408
Kosciusko.....	.....	6	6	15	2	27	2,322	4,739
Lagrange.....	.....	7½	8	15	4	7	3,777	3,744
Lake.....	2	3	4	89	7	1	1,626	1,554
Laporte.....	.....	25	6	75	28	144	2,930	3,203½
Lawrence.....	21	81	14	.....	.....	.....	1,651	3,366
Madison.....	.....	13	2	1	7	19	2,967	3,539½
Marion.....	115½	41¾	60¾	28½	154½	66¾	3,907¾	4,260¾
Marshall.....	1	22½	3½	25	8	7½	2,301	3,452
Martin.....	1	116	8	1	.....	1	1,138	3,680
Miami.....	.....	44	.....	22	6	98	2,324	3,973
Monroe.....	1	56	4	.....	1	6	1,474	2,656
Montgomery.....	8	8	3	.....	7	34	2,948	3,403
Morgan.....	1	52	.....	2	3	9	3,037	2,952

TABLE No. XVII.—Continued.

Counties.	Acres of Castor Beans.	Acres of Navy, Bunch or Corn Beans.	Acres of Onions.	Acres of Cranberries.	Acres of Strawberries.	Acres of Black, Rasp., and other Tame Berries.	Acres of Door-yard, Barn-yard and Garden.	Acres of Orchards.
Newton.....	1	34	5	.....	9	7	1,030	1,069
Noble.....	1½	2	2	14	3¼	2¼	2,361	4,214
Ohio.....	.....	7	.....	.....	4	17¼	584	896
Orange.....	.....	52	.....	.....	2	3	2,084	3,784
Owen.....	1	55	2	3	4	2	1,818	3,118
Parke.....	.....	28	.....	1	5	24	2,763	2,985
Perry.....	9	61	4	.....	3	25	1,369	2,759
Pike.....	3	103	1	.....	4	15	1,585	2,348
Porter.....	7	26	2	61	25	15	1,569½	2,109
Posey.....	1	10	2	.....	.....	4	1,695	2,999
Pulaski.....	26	28	.....	12	75	2	1,037	1,085
Putnam.....	.....	71	.....	.....	2	.....	3,888	8,783
Randolph.....	.....	62	.....	.....	9	10	3,240	4,292
Ripley.....	1	26	1	.....	2	.....	2,806	4,398
Rush.....	1	51	1	.....	24	10	3,280	3,497
Scott.....	3	144½	6	.....	1	88	848	4,683
Shelby.....	7	93	2	.....	7	7	3,029	3,840
Spencer.....	14	97	11	.....	7	20	1,927	3,796
Starke.....	.....	100	3	12	13	13	396	580
St. Joseph.....	1	3	3	50	24	33	2,245	4,861
Steuben.....	25	36	3	27	1	24	2,110	4,146
Sullivan.....	8	78	2	4	5	135	2,439	3,203
Switzerland.....	94	115	65	.....	17	7	1,153	3,023
Tippecanoe.....	.....	36	121	3	15	43	2,269	2,544
Tipton.....	1	56	.....	.....	3	3	1,129	1,490
Union.....	.....	2	.....	.....	9	1	1,710	1,207
Vanderburg.....	5	1	.....	.....	19	28	1,827	2,423
Vermillion.....	.....	7¾	.....	.....	2¼	5½	1,682½	1,267½
Vigo.....	1	19	25	.....	39	88	2,007	2,393
Wabash.....	11	49	37	4	11	90	3,165	3,874
Warren.....	4	5	2	.....	8	6	2,022	2,031
Warrick.....	19	222	34	.....	4	14	2,111	3,278
Washington.....	23	23	.....	1	4¼	4	3,045	3,281
Wayne.....	1	12	16	.....	25	45	3,621	4,581
Wells.....	3	8	4	7	2	10½	2,235	3,761
White.....	.....	22	2	.....	3⅛	5⅛	1,484	1,664
Whitley.....	.....	5	3	2	.....	8	1,843	3,153
Total.....	493½	4,997¼	851¼	579½	1,226½	2,714½	202,292½	291,247¼

TABLE No. XVIII.

Statement showing the Gallons of Milk taken from the Cows, and the Pounds of Butter made during past twelve months (April, 1880), and Stands of Bees, Pounds of Honey taken during past twelve months, Pounds of Wool clipped in 1879, Dozens of Eggs used or sold during past twelve months, and the Pounds of Feathers picked in 1879, as reported by the Assessors in April, 1880.

Counties.	Gallons of Milk taken from the cow in last 12 months.	Pounds of Butter made during the last 12 months.	Number of Stands of Bees.	Pounds of Honey taken during past 12 months.	Pounds of Wool clipped during the year 1879.	Number of Dozens of Eggs sold and used past 12 months.	Number of Pounds of Feathers picked in 1879.
Adams.....	1,819,743	301,187	1,896	16,532	48,895	215,813	3,135
Allen.....	2,949,832	792,758	4,114	30,719	71,153	440,204	3,621
Bartholomew.....	1,143,246	290,837	1,239	8,405	28,548	205,211	5,212
Benton.....	366,237	82,148	804	3,286	17,402	61,779	2,997
Blackford.....	703,608	133,797	822	7,883	27,695	116,124	1,355
Boone.....	1,611,221	335,142	1,591	14,087	48,446	193,013	8,732
Brown.....	663,086	175,748	326	1,724	16,481	63,449	3,118
Carroll.....	933,561	228,214	1,678	10,677	50,104	122,987	4,121
Cass.....	1,531,789	320,671	1,526	8,718	63,991	151,363	1,932
Clark.....	797,958	191,079	715	5,141	28,151	115,048	4,315
Clay.....	1,179,930	847,205	1,971	5,620	26,865	331,010	6,407
Clinton.....	2,627,514	308,542	2,111	11,611	37,735	254,298	5,463
Crawford.....	561,827	132,157	142	870	20,711	107,602	4,477
Davless.....	1,295,863	292,450	1,502	14,771	37,101	223,631	16,945
Dearborn.....	1,330,066	395,246	1,747	6,885	27,256	230,827	2,808
Decatur.....	1,486,787	250,540	1,348	11,048	47,839	151,431	6,645
Dekalb.....	1,753,858	416,080	1,692	12,796	60,247	277,073	2,606
Delaware.....	1,060,884	238,056	1,902	15,907	50,992	213,181	14,701
Dubois.....	570,131	149,031	471	3,272	28,990	127,242	8,070
Elkhart.....	2,069,455	490,396	2,152	20,310	87,030	284,931	1,626
Fayette.....	1,048,345	239,363	1,110	15,701	41,307	143,211	2,554
Floyd.....	555,633	131,831	200	1,465	6,251	23,270	769
Fountain.....	1,097,299	227,769	1,622	15,286	70,311	159,734	7,201
Franklin.....	1,451,342	410,491	1,030	8,271	46,123	371,107	7,003
Fulton.....	1,077,622	269,207	1,606	6,604	40,759	182,469	2,541
Gibson.....	988,343	252,806	1,299	15,512	18,957	140,957	23,141
Grant.....	1,006,466	231,455	1,670	11,458	54,014	215,521	3,825
Greene.....	1,817,700	849,336	1,510	3,814	61,296	203,610	8,241
Hamilton.....	1,690,650	407,769	1,723	12,320	42,667	350,180	5,013
Hancock.....	1,184,728	318,721	1,024	8,173	24,351	185,242	5,621
Harrison.....	1,035,948	345,191	846	4,002	35,429	311,286	7,725
Hendricks.....	1,979,537	405,904	1,563	15,531	88,000	292,290	7,399
Henry.....	1,716,494	364,583	2,025	11,580	47,629	263,712	5,117
Howard.....	1,215,700	255,583	1,991	9,565	28,022	220,100	10,972
Huntington.....	1,605,545	386,283	2,089	17,216	35,556	374,644	3,769
Jackson.....	1,435,925	278,159	1,243	6,765	34,492	278,141	7,839
Jasper.....	729,907	262,264	1,538	8,499	14,037	114,756	1,666
Jay.....	1,893,439	377,831	2,405	15,655	58,947	320,897	3,775
Jefferson.....	1,239,514	352,184	1,131	14,053	38,674	198,002	5,656
Jennings.....	860,779	243,654	1,097	6,551	24,228	112,576	3,766
Johnson.....	1,451,375	359,244	1,050	7,414	32,397	225,332	9,066
Knox.....	704,401	177,690	2,385	7,411	33,009	120,764	13,291
Kosciusko.....	1,781,971	604,176	4,264	18,616	58,331	348,699	3,487
Lagrange.....	1,460,067	394,341	2,056	17,604	98,174	193,263	1,563
Lake.....	2,014,248	615,074	1,596	59,984	19,428	209,343	766
Laporte.....	1,461,423	372,022	2,117	29,061	57,255	132,544	2,161

TABLE No. XVIII.—Continued.

Counties.	Gallons of Milk taken from the Cow in last 12 months.	Pounds of Butter made during last 12 months.	Number of Stands of Bees.	Pounds of Honey taken during past 12 months.	Pounds of Wool clipped during the year 1879.	Number of dozens of Eggs sold and used past 12 months.	Number of Pounds of Feathers picked in 1879.
Lawrence	402,178	165,607	7,168	2,928	40,697	105,208	6,180
Madison	1,397,079	323,724	1,636	9,325	49,827	289,495	7,264
Marion	2,888,543	571,554	1,184	14,870	48,381	879,077	3,785
Marshall	1,656,969	414,819	1,951	11,607	34,267	280,908	1,983
Martin	679,540	134,499	420	2,768	33,640	96,634	8,398
Miami	1,633,751	389,478	2,605	13,534	36,049	258,267	3,741
Monroe	1,016,491	225,919	619	27,842	42,815	148,971	4,524
Montgomery	1,892,858	449,419	2,135	21,326	120,189	169,870	5,813
Morgan	1,897,841	361,893	1,123	7,237	43,111	186,420	12,173
Newton	489,951	111,709	705	12,727	4,733	77,548	1,476
Noble	1,922,413	412,147	2,267	18,438	80,783	306,598	2,867
Ohio	414,380	99,931	497	2,923	15,963	51,496	152
Orange	653,505	187,998	666	4,804	50,629	245,862	6,529
Owen	1,687,233	307,348	818	1,910	78,894	158,486	7,098
Park	967,515	220,430	1,982	11,676	87,923	115,704	4,221
Perry	497,478	135,268	1,344	4,137	14,831	112,846	4,482
Pike	862,325	248,555	3,025	9,513	30,704	120,578	17,297
Porter	1,900,964	484,303	1,842	11,608	22,986	129,321	994
Posey	529,611	130,602	1,730	18,771	11,814	85,727	7,321
Pulaski	729,472	244,831	991	5,618	21,021	66,147	6,896
Putnam	1,783,213	702,768	1,219	10,453	59,020	487,159	7,919
Randolph	1,786,720	607,503	2,370	33,426	49,956	371,596	8,581
Ripley	1,736,472	529,320	1,237	8,825	42,451	446,625	6,372
Rush	1,618,686	389,178	1,388	15,966	72,926	161,811	6,774
Scott	579,960	166,949	561	2,123	20,991	130,565	4,783
Shelby	1,800,040	583,762	1,308	6,659	32,830	300,030	8,880
Spencer	784,778	200,089	2,796	10,413	27,680	242,047	18,831
Starke	288,791	67,832	940	1,424	935	32,492	282
St. Joseph	1,938,669	450,496	1,773	15,224	69,803	137,883	1,259
Steuben	2,071,565	586,935	1,392	17,705	130,202	331,245	1,020
Sullivan	1,693,156	281,706	1,212	5,791	46,335	231,161	11,667
Switzerland	699,479	271,877	1,330	17,481	27,826	141,351	2,816
Tippecanoe	1,331,057	268,087	2,835	17,455	50,011	188,636	2,620
Tipton	1,824,409	204,224	824	14,154	19,010	80,997	3,133
Union	715,420	145,189	804	8,277	32,087	75,209	977
Vanderburgh	1,882,414	388,810	751	8,556	11,068	36,491	1,147
Vermillion	751,804	148,194	1,252	18,668	22,209	122,735	3,621
Vigo	984,669	237,795	1,127	5,846	11,631	147,687	3,928
Wabash	5,245,854	436,896	2,068	22,814	48,905	298,287	5,691
Warren	866,976	173,991	1,179	7,585	40,822	89,930	2,146
Warrick	1,164,731	227,820	1,590	10,429	28,336	251,086	11,130
Washington	1,200,890	327,478	1,313	9,548	66,437	269,202	16,427
Wayne	2,387,039	399,145	2,213	17,601	58,042	211,856	4,510
Wells	1,506,045	361,658	1,865	11,291	45,741	485,567	6,279
White	743,441	214,045	1,783	12,959	34,130	107,296	1,709
Whitley	1,286,186	323,142	1,590	15,514	40,209	240,620	2,078
Total	122,157,613	28,617,086	146,327	1,197,627	3,893,715	18,531,524	518,78

TABLE No. XIX.

Acres Sown, Planted and Set for the Crops of 1880, as reported by the Assessors in April, 1880.

Counties.	Acres of Wheat, 1880.	Acres of Spring Wheat, 1880.	Acres of Corn Planted, 1880.	Acres of Oats Sown, 1880.	Acres of Barley in 1880.	Acres of Rye Sown, 1880.	Acres of Buck- wheat, 1880.	Acres of Irish Potatoes, 1880.	Acres of Sweet Potatoes set in 1880.	Acres of Melons Planted, 1880.	Acres of Tobac- co Planted in 1880.	Acres of Cab- bage set in 1880.
Adams	26, 017	1, 475	18, 898	9, 940	43	20	121	734	13	.....	.....	.....
Allen.....	62, 169	300	88, 070	17, 312	168	191	201	2, 657	7	16	.....	39
Bartholomew.....	47, 224	2, 345	50, 289	8, 778	314	87	253	761	21	69	99	213/4
Benton.....	10, 431	885	88, 622	16, 809	416	282	346	850	20	1	11	21/2
Blackford	12, 497	25	13, 660	4, 290	27	73	13	949	1	1	4	.....
Boone.....	36, 847	342	42, 944	3, 389	239	78	50	841	23	10	6	1
Brown	10, 029	226	11, 602	5, 339	77	42	101	507	25	8	452	63
Carroll	47, 053	1, 519	33, 892	6, 282	53	38	76	632	13	44	1	2
Cass	37, 632	521	37, 107	6, 823	132	100	54	1, 134	9	34	8	43/4
Clark	21, 635	142	26, 651	9, 903	190	896	111	853	107	103	125	10
Clay	31, 584	2, 506	24, 836	6, 617	125	60	68	725	15	19	9	5
Clinton.....	43, 016	4, 254	48, 686	6, 985	74	100	90	410	32	4	.....	1
Crawford	10, 696	378	16, 534	6, 630	49	38	7	609	13	16	33	3
Davies.....	57, 062	236	36, 303	7, 887	118	84	29	466	150	245	2	23/4
Dearborn.....	24, 611	1, 730	23, 455	8, 760	4, 483	250	324	1, 273	31	3	.....	10
Decatur	35, 239	684	40, 421	7, 947	273	132	33	523	18	26	2	1
Dekalb	31, 744	394	18, 874	11, 489	69	53	126	925	16	1	.....	7
Delaware.....	33, 295	652	37, 137	3, 325	392	68	60	412	4	2	.....	3
Dubois.....	32, 275	69	21, 955	12, 553	290	17	7	474	9	6	1, 061	2
Elkhart	53, 899	714	38, 081	10, 970	41	316	241	1, 133	15	23	3	22
Fayette	21, 491	94	28, 776	4, 358	414	43	73	546	8	6	6	6
Floyd	9, 023	68	7, 891	3, 613	144	159	27	971	65	103	8	212
Fountain	44, 633	1, 108	41, 530	4, 832	55	107	15	394	17	21	1	6
Franklin	31, 844	139	42, 110	10, 921	8, 559	406	133	1, 364	24	85	20	11
Fulton.....	27, 449	591	23, 894	7, 038	55	70	145	673	21	10	2	8
Gibson.....	53, 875	160	46, 810	2, 312	164	143	22	519	56	1, 528	99	5
Grant	29, 250	660	32, 084	4, 007	67	40	46	500	25	18	19	10
Greene.....	40, 102	698	40, 196	10, 904	63	91	84	36	28	60	108	18
Hamilton	43, 752	.....	49, 516	5, 562	131	134	33	1, 178	24	36	15	36
Hancock.....	34, 688	.....	37, 644	3, 622	463	62	23	224	9	6	9	.....
Harrison	38, 071	919	26, 651	9, 846	259	297	37	1, 054	54	31	8	62
Hendricks	40, 046	107	46, 574	5, 461	38	225	42	1, 154	17	18	2	8

Henry.....	45,020	400	53,099	5,423	254	54	31	555	23	55	8	10
Howard.....	35,096	81	34,899	3,214	78	122	104	462	15	7	21	6
Huntington.....	48,198	.....	40,311	7,097	168	46	40	747	19	17	9	17½
Jackson.....	28,160	138	40,815	12,828	110	284	39	663	38	988	16	11
Jasper.....	9,127	547	34,476	12,665	225	504	254	346	14	8	25	4
Jay.....	27,433	220	35,093	10,173	59	10	35	579	56	1	.....	.....
Jefferson.....	27,189	876	26,011	8,121	1,717	239	91	658	43	182	150	23½
Jennings.....	18,799	.....	21,251	6,321	80	119	115	266	21	28	16	1
Johnson.....	41,642	494	40,633	6,743	33	63	88	508	13	48	9	9
Knox.....	57,764	502	40,766	3,277	317	120	61	954	232	169	29	33
Kosciusko.....	51,622	1,811	33,218	9,344	193	62	183	874	18	11	7	4
Lagrange.....	50,947	1,383	23,322	7,173	32	108	150	760	4	3	2	2
Lake.....	3,471	1,626	32,391	20,167	75	739	266	1	76	1	21	14
Laporte.....	45,827	983	40,383	13,534	529	492	638	5,599	215	14	1	8
Lawrence.....	16,391	221	28,350	12,270	158	493	45	206	19	241	26	25
Madison.....	47,554	1,170	53,331	3,779	423	85	37	353	511	117½	25	8½
Marion.....	39,649½	821	53,493	7,028	515	187	66	2,438	518½	186¼	29	85¾
Marshall.....	39,046	859	27,545	7,968	485	129	158	958	68	97½	6½	27
Martin.....	19,507	165	17,985	5,903	42	61	53	200	5	35	19	4
Miami.....	48,944	865	37,434	5,634	170	71	76	762	80	3	.....	7
Monroe.....	14,245	686	19,678	8,358	31	214	13	177	13	15	10	12
Montgomery.....	56,046	118	57,046	6,300	162	182	39	506	34	31	4	8
Morgan.....	33,944	.....	40,327	4,327	492	288	12	233	7	83	2	5
Newton.....	6,797	391	44,023	12,731	63	638	124	253	5	81	5	3
Noble.....	48,552	401	23,944	8,467	128	108	53	1,115	17	4	2	9
Ohio.....	9,425	30	8,604	1,026	636	199	24	1,304	13	1	13	.....
Orange.....	17,621	1,890	25,095	12,259	14	206	27	69	3	10	78	1
Owen.....	23,665	1,22	22,108	8,161	8	119	46	198	25	34	3	4
Parke.....	45,329	600	40,772	5,460	61	199	21	314	19	22	9	6
Perry.....	30,208	358	14,410	4,733	381	80	33	1,209	14	18	273	19
Pike.....	34,775	654	29,714	5,489	66	44	15	840	31	80	1,077	5
Porter.....	26,016	239	35,816	12,875	191	374	219	1,965	35	.....	44	.....
Posey.....	62,769	839	40,869	11,738	163	43	13	527	18	47	14	2
Pulaski.....	26,916	533	17,120	5,134	260	460	164	597	6	4	8	4
Putnam.....	32,412	.....	41,188	5,710	14	206	84	214	7	7	25	9
Randolph.....	43,059	64	54,073	11,539	241	122	63	670	28	16	19	2
Ripley.....	28,860	248	27,819	13,746	75	189	74	1,362	4	15	8	.....
Bush.....	49,930	625	58,645	5,978	1,070	95	113	643	42	15	13	3
Scott.....	10,671	79	14,649	4,390	60	94	34	149	28	19	21	15
Shelby.....	52,819	339	58,278	4,863	2,133	122	69	471	15	50	54	5
Spencer.....	34,000	929	35,394	9,281	847	209	69	2,465	134	330	4,000	137
Starke.....	4,460	328	5,253	1,536	100	370	199	273	11	24	2	2
St. Joseph.....	48,024	433	31,741	8,930	607	178	197	1,356	7	64	4	.....
Steuben.....	33,539	5	20,179	6,442	40	47	188	959	1	1	.....	.....
Sullivan.....	61,777	1,207	36,606	6,762	360	163	149	268	16	30	6	6
Switzerland.....	19,017	763	10,926	2,765	566	984	134	3,177	1,098	97	572	26
Tippecanoe.....	56,237	1,949	73,398	12,344	198	260	73	1,039	79	42	3	27
Tipton.....	20,862	406	26,246	1,832	264	60	86	116	15	7	27	.....
Union.....	17,778	262	21,125	3,181	699	21	7	818	123	5	11	.....
Vanderburgh.....	29,878	.....	20,892	1,934	14	67	8	1,007	15	2	6	15

TABLE No. XIX.—Continued.

Counties.	Acres of Wheat, 1880.	Acres of Spring Wheat, 1880.	Acres of Corn Planted, 1880.]	Acres of Oats Sown, 1880.	Acres of Barley in 1880.	Acres of Rye Sown, 1880.	Acres of Buck- wheat, 1880.	Acres of Irish Potatoes, 1880.	Acres of Sweet Potatoes set in 1880.	Acres of Melons Planted, 1880.	Acres of Tobac- co Planted in 1880.	Acres of Cab- bage set in 1880.
Vermillion	36,402	855	30,358	3,897	182	52	29	271	1	10 3/4	1/2	3/4
Vigo.....	41,656	121	32,290	5,044	33	73	21	1,084	81	454	.....	23
Wabash	45,783	100	43,556	7,085	233	29	94	1,003	24	11	42	29
Warren	20,333	1,300	42,772	11,173	161	186	96	231	6	5	.....	22
Warrick.....	35,459	1,527	30,575	5,794	56	126	27	1,737	178	121	4,473	37
Washington.....	21,151	23	34,085	17,086	176	202	22	165	6	.....	71	1
Wayne	38,993	670	55,964	11,835	886	169	30	1,210	344	28	291	21
Wells	29,335	256	30,998	4,764	476	136	90	546	20	13	5	10
White	21,905	470	46,370	14,933	203	212	415	595	41/4	10	13	2
Whitley	27,618	2	23,450	8,539	65	36	162	774	4	1	4	5
Total.....	3,064,489	553,031	1,018,340	710,900	30,023	15,640	8,696	74,567	5,387	6,316	13,762	1,647

TABLE No. XX.

Statement showing the Estimated Amount and Market Value of the Apple and Peach Crop of Indiana for the year 1880.

Counties.	Apples.			Peaches.		
	Trees.	Bushels.	Dollars.	Trees.	Bushels.	Dollars.
Adams.....	60,290	274,056	246,639	6,690	18,380	35,612
Allen.....	245,182	1,500,640	1,007,576	19,487	32,918	41,242
Bartholomew.....	76,220	431,712	391,273	39,932	90,953	113,686
Benton.....	18,307	160,816	144,725	3,923	7,736	9,647
Blackford.....	21,689	81,965	74,168	2,512	5,842	7,313
Boone.....	49,005	238,872	215,014	9,164	17,898	22,371
Brown.....	30,477	161,467	145,321	53,044	149,614	188,017
Carroll.....	63,433	458,493	412,643	6,276	6,303	7,862
Cass.....	80,390	548,855	493,897	8,455	12,013	15,012
Clark.....	114,518	547,720	761,768	73,756	255,672	318,689
Clay.....	47,915	270,046	243,033	12,563	28,064	35,108
Clinton.....	81,081	490,475	441,428	8,424	16,544	19,387
Crawford.....	97,961	608,043	547,240	38,817	54,724	68,403
Daviess.....	58,044	376,930	339,637	18,167	41,191	52,638
Dearborn.....	80,514	316,833	375,128	30,872	35,551	56,935
Decatur.....	52,649	215,259	193,833	7,613	10,737	13,519
Dekalb.....	92,867	492,010	416,267	15,779	30,432	38,128
Delaware.....	70,614	336,104	302,193	8,979	19,187	23,921
Dubois.....	39,355	242,886	218,597	14,372	34,760	47,349
Elkhart.....	140,604	597,258	537,672	33,223	54,863	67,225
Fayette.....	32,548	173,817	156,435	8,860	16,846	21,055
Floyd.....	63,391	374,441	336,996	34,814	132,874	166,091
Fountain.....	43,371	171,529	154,377	18,866	34,027	32,530
Franklin.....	81,710	448,273	403,445	32,354	52,297	65,388
Fulton.....	50,831	332,380	301,141	9,364	13,443	16,801
Gibson.....	33,913	159,605	143,645	18,727	45,311	56,661
Grant.....	62,817	360,987	322,888	12,842	15,381	19,024
Greene.....	86,602	414,508	373,038	49,438	76,181	97,220
Hamilton.....	84,959	424,479	382,031	9,298	11,361	14,143
Hancock.....	49,023	187,040	167,957	4,537	9,359	11,657
Harrison.....	131,444	610,500	549,480	63,076	194,449	243,063
Hendricks.....	82,490	183,320	164,909	15,001	30,902	38,735
Henry.....	86,914	583,880	525,041	18,458	29,530	36,909
Howard.....	71,135	583,384	483,045	8,792	17,689	21,880
Huntington.....	96,687	460,839	414,657	22,891	52,111	66,886
Jackson.....	56,214	320,986	288,887	92,388	122,300	165,361
Jasper.....	23,942	149,836	135,652	10,416	18,414	23,112
Jay.....	75,083	348,537	313,581	15,543	35,381	44,297
Jefferson.....	107,951	411,698	424,448	25,257	65,173	81,449
Jennings.....	58,385	344,362	315,922	4,118	4,268	5,327
Johnson.....	67,397	268,118	241,308	19,585	61,740	77,174
Knox.....	40,293	248,029	223,324	14,861	19,708	24,445
Kosciusko.....	113,462	602,390	542,271	27,228	42,743	53,017
Lagrange.....	94,054	537,710	483,940	20,094	31,026	38,794
Lake.....	66,178	196,973	187,276	1,426	1,832	2,251
Laporte.....	107,245	617,353	555,718	10,106	16,074	20,089
Lawrence.....	46,311	254,417	229,884	36,374	73,438	91,837
Madison.....	75,727	439,518	404,474	5,897	10,298	12,931
Marion.....	98,374	413,702	372,332	9,801	15,751	19,668
Marshall.....	90,191	472,494	425,694	14,693	23,537	29,421
Martin.....	46,304	278,887	250,997	25,086	52,147	52,683
Miami.....	90,416	555,783	500,201	13,832	15,464	19,324
Monroe.....	49,035	232,579	209,320	35,420	64,980	82,541
Montgomery.....	60,121	389,433	349,491	22,340	57,596	72,193
Morgan.....	50,984	252,774	232,855	29,821	70,808	88,495
Newton.....	23,166	103,225	91,882	2,166	4,314	5,292
Noble.....	113,503	528,470	473,825	22,003	35,392	44,063
Ohio.....	20,324	70,688	63,616	5,925	19,200	23,999
Orange.....	60,194	319,314	286,381	44,900	76,532	96,923

TABLE No. XX.—Continued.

Counties.	Apples.			Peaches.		
	Trees.	Bushels.	Dollars.	Trees.	Bushels.	Dollars.
Owen.....	61,959	358,060	322,264	34,303	72,936	92,169
Parke.....	63,893	354,399	319,462	13,289	23,728	29,648
Perry.....	87,624	407,821	367,038	15,694	63,383	79,228
Pike.....	45,416	304,307	273,876	28,401	124,819	156,023
Porter.....	84,666	462,285	416,055	4,247	5,647	7,057
Posey.....	72,220	381,777	342,690	13,566	57,206	71,506
Pulaski.....	25,686	161,735	145,751	3,779	5,191	6,487
Putnam.....	82,423	299,439	269,495	28,413	65,849	81,684
Randolph.....	99,809	322,815	377,109	9,584	11,976	14,969
Ripley.....	113,286	650,735	585,662	4,222	6,004	7,506
Rush.....	57,417	328,763	295,668	11,094	29,411	36,663
Scott.....	97,391	349,100	313,280	6,008	11,619	14,523
Shelby.....	68,424	294,137	264,724	11,225	21,555	26,940
Spencer.....	78,033	461,808	415,627	27,604	118,617	148,270
Starke.....	14,419	122,620	110,346	3,763	6,944	8,680
St. Joseph.....	122,017	780,243	703,516	14,670	24,715	30,891
Steuben.....	115,997	655,843	590,258	25,213	47,568	59,457
Sullivan.....	130,843	1,059,149	953,133	21,209	54,507	68,133
Switzerland.....	68,319	360,721	324,647	9,282	34,905	43,743
Tippecanoe.....	70,356	558,662	502,695	13,268	30,528	38,407
Tipton.....	43,720	250,826	223,743	5,910	7,854	9,854
Union.....	23,184	146,335	131,701	4,276	7,651	9,370
Vanderburgh.....	56,837	404,599	365,737	14,119	49,050	61,311
Vermillion.....	68,973	344,569	310,112	7,113	17,908	22,385
Vigo.....	55,541	274,614	247,151	15,460	36,424	45,528
Wabash.....	93,586	532,144	478,930	19,886	27,836	34,793
Warren.....	86,406	216,043	194,273	12,047	31,279	39,098
Warrick.....	65,532	508,161	457,334	35,611	140,598	175,746
Washington.....	136,662	888,421	799,578	153,284	440,687	550,822
Wayne.....	94,125	607,377	546,639	11,093	19,270	24,085
Wells.....	95,033	338,098	304,289	14,866	23,106	28,880
White.....	41,042	261,663	235,496	57,048	6,265	7,830
Whitley.....	86,889	445,698	401,128	13,759	22,525	28,153
Total.....	6,672,096	35,992,180	32,579,743	1,910,601	4,244,445	5,332,627

NOTE.—The trees are those old enough to bear, as reported by the Assessors in April, 1880. The bushels are obtained by multiplying the bearing rate of the trees reported by the Trustees in September and October, 1880. The dollars, or value, are the bushels multiplied by the market price at Indianapolis at the harvesting season. It is not pretended that any such sums of money are realized from the fruit crop of the State, but it strongly suggests the future possibilities of such crop in sustaining population. In many parts of the State, fifty times the present number of trees could be planted without seriously intruding on the arable land.

The totals given on page 8, were copied from the Auditor's reports. In making this table, the number of trees in many townships being omitted by the assessor, were estimated by the Bureau, — hence the difference in the totals.

TABLE No. XXI.

Statement showing the Number of Bearing and Non-Bearing Fruit Trees, as reported by the Assessors in April, 1880.

Counties.	Apple Trees.		Peach Trees.		Pear Trees.		Plum Trees.		Quince Trees.		Cherry Trees.		Siberian Crab Trees.		Grape Vines.	
	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.
Adams.....	60,299	43,946	6,690	3,393	1,536	3,001	837	672	179	265	8,996	7,503	760	1,236	10,923	8,102
Allen.....	245,182	76,209	19,467	8,090	5,907	8,407	704	1,071	416	1,056	32,622	18,566	2,079	1,193	36,208	16,116
Bartholomew.....	76,220	25,311	39,932	5,967	1,709	1,405	8,544	3,532	463	709	7,455	3,541	215	534	7,865	3,228
Benton.....	18,307	41,977	3,211	2,311	698	1,525	236	479	40	120	9,010	2,557	784	489	5,686	3,422
Blackford.....	21,639	61,563	2,512	1,106	505	646	232	253	34	106	5,374	4,090	201	1,086	3,528	1,772
Boone.....	49,005	31,768	9,164	6,315	1,636	2,323	642	740	223	421	8,604	4,009	369	471	4,255	3,003
Brown.....	30,477	36,722	53,014	5,996	1,140	684	946	1,133	710	655	3,463	2,186	213	62	2,184	3,471
Carroll.....	63,433	28,625	6,276	3,456	1,077	1,619	392	631	97	185	10,284	6,884	326	198	6,642	2,894
Cass.....	80,390	34,231	8,455	6,970	1,781	2,971	459	671	201	352	13,396	6,290	446	451	14,254	9,119
Clark.....	114,518	39,668	73,756	15,907	4,112	2,325	2,561	956	1,246	1,740	3,960	1,846	1,471	610	31,381	9,035
Clay.....	47,915	25,235	12,563	7,630	1,491	1,616	594	908	455	612	6,081	2,673	468	380	12,468	6,361
Clinton.....	81,081	50,294	8,424	5,438	1,796	2,712	842	1,225	177	385	11,426	5,480	647	565	7,120	3,847
Crawford.....	97,961	68,956	38,817	10,720	1,614	1,169	968	503	438	250	2,068	31,318	90	89	866	12,441
Davies.....	58,044	32,938	18,167	9,901	1,093	1,023	911	1,092	624	620	5,476	3,424	301	235	18,081	9,426
Dearborn.....	80,614	28,928	30,872	11,917	4,467	3,739	9,039	9,649	2,008	1,656	8,672	3,944	551	3,308	66,762	16,685
Decatur.....	52,619	19,299	7,613	4,112	2,258	1,598	1,354	1,348	529	594	5,146	2,037	265	373	2,586	1,867
Dekalb.....	92,867	21,210	16,779	9,902	2,063	2,506	549	806	184	691	18,782	8,475	972	521	9,076	4,329
Delaware.....	70,614	32,043	8,979	3,890	1,619	1,637	630	577	79	925	9,537	4,678	387	455	4,074	2,220
Dubois.....	39,365	35,689	14,372	7,976	875	1,688	359	435	104	1,227	932	1,069	454	737	21,983	11,478
Elkhart.....	140,604	84,645	33,223	15,162	4,334	3,729	642	1,273	126	418	11,693	10,634	572	592	85,788	25,680
Fayette.....	32,543	12,562	8,860	7,302	2,778	1,875	2,571	2,374	659	742	5,490	3,251	242	178	6,002	1,586
Floyd.....	63,391	32,792	34,814	4,677	4,100	2,820	2,996	1,088	1,006	1,186	4,348	3,589	409	265	9,785	4,012
Fountain.....	43,371	18,611	18,866	11,503	2,097	2,187	819	975	213	540	6,392	3,792	828	509	9,132	6,003
Franklin.....	81,710	28,065	32,854	18,562	3,771	2,940	4,185	2,667.	1,608	1,374	7,389	3,792	703	1,275	23,606	6,782
Fulton.....	50,831	22,554	9,364	4,065	1,535	1,792	475	390	76	338	9,286	4,235	616	809	15,741	11,386
Gibson.....	33,913	22,808	18,727	6,247	1,785	2,351	3,832	2,874	1,072	1,011	3,585	2,144	425	343	8,094	3,821
Grant.....	62,817	38,118	12,842	6,878	1,626	1,871	476	743	574	357	11,444	5,169	465	343	12,681	3,067
Greene.....	86,602	45,789	49,468	19,866	1,430	1,291	1,073	1,348	785	736	7,142	3,598	347	449	9,881	5,711

TABLE No. XXI.—Continued.

Counties.	Apple Trees.		Peach Trees.		Pear Trees.		Plum Trees.		Quince Trees.		Cherry Trees.		Siberian Crab Trees.		Grape Vines.	
	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.	Bearing.	Young Non-Bearing.
Hamilton	84,949	47,668	9,298	6,985	2,963	3,816	649	1,167	157	475	9,686	6,136	710	529	8,040	6,448
Hancock	49,093	28,401	4,537	3,584	1,964	2,268	534	799	140	469	4,267	3,002	331	367	6,087	2,586
Harrison	131,444	10,290	63,076	10,667	3,951	3,924	2,991	2,884	2,345	2,483	7,381	4,714	429	1,862	5,358	2,881
Hendricks	82,490	83,206	16,001	11,769	3,237	4,555	1,971	1,597	2,817	2,480	9,131	4,420	375	407	8,251	2,855
Henry	86,914	27,565	18,458	11,361	4,208	3,335	1,924	3,053	433	1,251	8,999	11,037	614	513	12,207	7,120
Howard	71,135	24,405	8,792	3,419	2,201	2,455	667	701	125	328	11,060	4,832	559	892	11,575	4,309
Huntington	96,687	43,555	22,891	8,746	3,432	4,539	521	887	656	697	19,639	9,325	1,601	1,059	13,033	8,111
Jackson	56,214	40,030	92,388	15,498	1,747	1,177	1,842	1,374	549	1,294	3,709	3,028	1,022	1,491	37,161	8,360
Jasper	23,942	23,748	10,416	6,889	904	1,167	602	565	33	285	6,299	4,645	730	868	5,313	4,148
Jay	75,083	56,234	16,543	2,823	2,601	8,685	771	876	267	595	14,688	7,266	975	1,249	8,727	6,511
Jefferson	53,799	53,799	25,257	6,735	4,666	7,618	734	788	2,891	2,262	6,317	6,457	326	524	17,529	6,805
Jennings	35,155	35,155	4,118	2,067	2,095	1,107	1,132	1,212	439	937	2,414	2,321	78	202	2,987	1,929
Johnson	67,397	29,683	19,585	7,821	2,913	2,322	1,891	2,102	412	1,677	8,127	3,185	225	183	8,526	3,054
Knos	40,293	23,109	14,861	8,060	1,580	2,287	1,578	1,934	664	616	5,238	3,081	267	759	26,874	12,228
Kosciusko	113,462	35,897	27,229	12,329	2,981	4,757	599	897	156	1,063	16,927	6,225	1,140	689	21,894	10,299
Lagrange	94,054	19,453	20,094	13,611	2,523	2,925	524	869	184	429	18,495	5,111	775	346	45,365	16,408
Lake	66,178	19,286	1,426	1,843	670	910	210	455	18	95	8,725	2,883	961	459	8,415	4,160
Laporte	107,245	37,167	10,105	6,129	2,682	3,725	263	480	185	576	5,934	2,713	715	480	14,830	7,920
Lawrence	46,311	23,632	36,374	17,389	1,286	1,036	1,089	1,394	308	288	3,452	2,591	177	178	15,753	1,445
Madison	75,727	34,238	5,897	5,205	1,667	3,283	618	968	191	422	4,300	5,613	940	383	3,617	3,107
Marion	98,374	45,682	9,801	6,650	6,776	6,799	1,852	1,947	609	2,523	10,866	5,446	970	1,341	47,435	10,897
Marshall	90,191	46,084	14,693	7,662	2,201	2,984	674	792	284	878	13,846	5,632	1,234	1,046	27,818	11,934
Martin	46,304	27,993	25,036	10,379	732	670	726	1,378	167	290	2,548	2,297	73	101	5,087	3,049
Miami	90,416	29,222	13,832	5,631	2,763	3,025	671	909	802	697	14,818	5,213	931	766	10,844	5,575
Monroe	49,035	35,030	35,420	12,789	2,094	799	1,812	1,635	373	349	8,466	4,145	459	491	8,545	5,087
Montgomery	60,121	24,491	22,840	14,616	3,427	3,359	1,038	1,548	748	3,679	3,968	1,885	123	115	3,751	2,084
Morgan	50,984	25,526	29,821	11,871	2,101	3,316	889	1,436	261	620	4,471	2,968	237	100	6,543	1,967
Newton	23,166	28,950	2,166	2,898	484	2,548	217	439	15	112	6,623	3,566	673	692	5,434	6,088
Noble	113,608	27,782	22,003	13,748	4,017	4,534	1,009	1,247	332	683	19,253	19,796	982	719	14,807	6,726
Ohio	20,324	6,540	6,925	5,984	1,444	656	1,026	609	533	304	1,941	576	46	93	6,390	553
Orange	60,194	42,623	44,900	13,070	1,119	885	982	1,202	348	667	3,934	2,713	250	93	1,770	1,151
Owen	61,969	81,272	34,008	19,564	3,468	1,558	1,296	1,656	418	453	6,786	3,614	303	601	7,348	7,034
Parke	63,893	73,836	13,289	14,855	2,481	2,685	950	1,289	218	508	6,036	4,176	354	427	10,159	4,363
Perry	87,624	41,173	15,694	4,727	883	651	543	459	292	307	1,287	2,537	187	227	25,727	10,286
Pike	45,416	34,964	26,401	10,704	1,123	1,380	1,133	1,748	318	796	4,405	2,345	286	427	4,194	2,274

Porter.....	84,656	21,674	4,247	54,511	1,483	1,722	508	379	106	220	6,252	4,275	810	949	9,368	7,502
Posay.....	72,220	24,417	13,566	4,827	1,966	1,318	3,493	2,089	1,034	543	2,672	1,262	887	473	12,451	2,796
Pulaski.....	25,686	14,590	3,770	2,447	677	635	163	310	51	791	6,099	4,875	559	416	4,279	5,916
Putnam.....	82,423	34,603	28,413	16,614	3,565	3,222	1,603	2,061	654	1,132	7,479	4,866	466	565	7,431	2,371
Randolph.....	99,809	52,463	9,584	5,510	4,833	5,551	1,463	1,865	454	852	16,505	9,608	701	900	11,910	6,793
Ripley.....	113,286	39,924	4,222	1,623	2,557	1,980	1,716	2,395	590	866	4,877	1,859	466	818	18,206	4,052
Rush.....	57,417	25,237	11,094	8,204	3,123	3,313	2,849	3,971	602	764	6,785	5,787	470	366	6,647	2,890
Scott.....	97,391	18,632	6,008	3,508	866	472	657	682	467	252	1,674	1,305	187	66	34,134	17,543
Shelby.....	68,424	30,769	11,225	7,194	2,712	2,185	1,364	1,740	519	781	7,700	4,464	512	530	5,420	4,927
Spencer.....	78,033	39,496	27,604	6,574	2,211	1,873	1,832	1,199	787	457	2,785	2,713	571	1,025	16,934	7,023
Starke.....	14,419	12,618	3,763	3,265	188	370	209	348	12	53	5,226	1,704	169	266	1,991	5,321
St. Joseph.....	122,017	39,410	14,670	6,918	3,208	4,549	239	492	319	515	19,404	2,559	532	478	12,436	3,501
Steuben.....	115,997	26,088	25,213	18,008	3,252	2,274	998	751	140	826	23,700	2,648	806	697	29,630	10,423
Sullivan.....	130,843	38,955	21,209	8,805	2,060	1,573	931	1,493	324	1,339	7,858	4,213	401	339	23,239	5,963
Switzerland.....	68,319	17,669	9,282	2,904	3,447	1,716	4,665	4,292	1,545	1,097	4,264	4,260	148	123	7,089	2,428
Tippecanoe.....	70,856	28,076	13,268	7,167	5,162	2,407	1,434	876	387	818	11,413	24,633	633	509	29,832	9,403
Tipton.....	43,720	21,313	5,910	3,487	1,201	1,318	1,635	663	65	284	6,475	3,691	406	254	3,784	3,496
Union.....	23,184	7,572	4,276	3,158	1,735	1,556	979	1,293	641	546	2,923	1,074	160	161	3,426	1,632
Vanderburg.....	56,337	24,395	14,119	3,450	2,360	1,124	1,018	1,593	1,834	936	2,717	77,484	110	197	34,969	3,425
Vermillion.....	68,973	20,244	7,113	5,265	1,094	1,015	322	505	171	251	3,238	8,577	250	569	5,303	3,512
Vigo.....	55,441	26,392	15,460	6,686	2,671	2,923	991	1,625	266	471	6,433	8,577	306	307	32,750	4,757
Wabash.....	93,586	39,146	19,886	9,573	4,778	3,967	1,018	1,024	316	844	15,328	6,746	1,376	2,360	25,341	14,859
Warren.....	36,406	19,198	12,047	3,785	1,240	1,487	316	499	72	551	5,873	4,495	344	467	4,243	2,022
Warrick.....	65,532	41,761	35,611	11,407	2,667	2,180	3,031	2,260	769	1,060	4,998	3,187	803	573	16,229	6,732
Washington.....	136,662	40,726	153,284	20,805	2,652	1,922	3,046	1,476	1,169	643	6,054	2,064	310	110	9,896	1,645
Wayne.....	94,125	34,496	11,033	7,748	6,998	5,474	2,074	2,420	800	1,401	14,056	8,630	1,040	843	11,792	4,649
Wells.....	95,033	64,653	14,866	5,889	2,219	4,293	625	932	382	2,084	16,035	11,298	1,164	833	38,972	18,536
White.....	41,042	25,129	57,048	3,141	879	1,288	291	480	39	871	10,690	3,908	518	273	7,720	3,751
Whitley.....	86,889	27,171	13,759	6,914	2,546	2,873	436	638	197	404	14,028	5,466	933	572	9,884	6,475
Total.....	6,672,096	3,073,474	1,910,601	788,134	221,846	230,579	123,594	129,293	44,812	58,740	762,188	546,255	50,190	52,791	1,345,853	566,848

TABLE No. XXII.

Statement showing the Number of Agricultural Implements, by Counties, as reported by the Assessors, April, 1880.

Counties.	Common Break- ing Plows.	Riding Break- ing Plows.	One-horse "Bar- shear" Plows.	Single Shovel Plows.	Double Shovel Plows.	Wheel Cultiva- tors.	Two-horse Har- rows.	One-horse Har- rows.	Wheat or Seed Drills.	Broadcast Seed Sowers.	Drop Rake Reapers.	Reapers, Self- binding.	Mowers.	Reapers and Mowers Com- bined.	Horse Hay Rakes.	Hay Loaders, Lifters or Stackers.	Fanning Mills.	Steam Threshers.	Horse Power Threshers.
Adams.....	1,954	83	176	1,551	1,537	238	1,391	74	275	28	46	17	184	501	529	107	634	28	31
Allen.....	3,794	181	214	2,746	3,261	456	2,775	161	597	31	168	19	355	1,113	1,133	146	1,250	45	56
Bartholomew.....	2,554	171	408	1,636	1,469	1,384	1,996	202	1,436	150	327	142	107	468	460	43	545	? 144	20
Benton.....	1,725	234	25	1,57	196	1,780	1,229	35	80	72	93	7	97	214	201	23	49	3	16
Blackford.....	916	8	38	698	846	160	622	18	78	16	17	5	53	110	155	11	175	5	5
Boone.....	2,721	143	220	1,295	2,211	1,027	1,464	207	530	144	302	25	78	425	385	52	272	25	16
Brown.....	1,194	26	101	940	1,233	76	695	23	82	6	4	8	74	33	86	9	102	3	14
Carroll.....	2,319	141	345	1,014	1,625	1,180	1,584	89	615	96	349	37	67	629	407	91	602	38	11
Cass.....	2,588	81	305	1,496	2,210	838	1,716	124	551	45	147	21	137	544	432	93	659	27	4
Clark.....	1,737	51	963	1,055	2,789	239	1,167	167	139	30	48	4	215	204	321	24	156	4	14
Clay.....	1,854	53	624	1,001	1,700	386	1,134	92	336	41	63	12	401	380	371	78	291	14	31
Clinton.....	2,945	137	182	1,539	2,200	1,440	1,919	169	653	64	254	14	43	595	379	125	627	32	9
Crawford.....	1,049	17	269	1,225	392	38	452	74	37	7	8	13	78	52	81	15	83	2	22
Davies.....	2,649	84	1,232	1,962	1,709	268	1,573	115	600	191	246	67	92	498	292	30	228	19	53
Deaiborn.....	2,361	47	199	1,962	1,956	285	1,425	291	436	101	136	13	335	392	588	119	405	28	40
Decatur.....	2,055	62	470	1,272	1,338	1,230	1,411	258	695	112	227	23	143	395	350	119	376	32	13
DeKalb.....	2,040	32	77	671	1,338	1,386	1,356	102	245	44	200	33	235	594	598	133	853	28	20
Delaware.....	2,075	155	149	935	1,714	1,172	1,507	189	440	131	168	19	100	408	338	104	519	42	10
Dubois.....	1,829	22	817	1,755	1,714	78	1,213	93	175	7	23	4	133	350	287	19	319	11	39
Elkhart.....	2,888	59	127	1,306	2,514	1,143	2,112	128	751	175	410	165	218	593	842	106	1,198	48	13
Fayette.....	1,409	78	346	662	1,083	1,043	1,037	678	800	89	211	26	83	384	284	88	408	29	7
Floyd.....	1,022	35	670	626	524	150	579	283	61	8	6	.....	81	92	146	6	82	10	12
Fountain.....	2,510	276	344	1,071	1,555	1,337	1,476	176	652	78	231	54	113	421	468	66	426	13	29
Franklin.....	2,563	59	511	1,662	2,136	831	1,638	305	821	47	158	23	87	424	311	87	691	33	46
Fulton.....	1,703	29	62	773	1,424	511	1,048	189	315	60	59	9	155	362	332	49	591	25	12
Gibson.....	2,923	202	2,927	492	1,990	298	1,388	451	808	148	284	69	149	601	289	74	231	64	7
Grant.....	1,888	48	168	1,147	1,847	613	1,260	167	409	141	165	18	99	379	204	70	424	26	14
Greene.....	2,448	43	846	2,754	1,495	496	1,323	74	307	33	73	22	196	208	224	21	178	11	26
Hamilton.....	3,048	90	243	1,837	2,608	1,340	1,708	161	701	97	635	21	113	1,189	469	73	634	45	10
Hancock.....	2,076	73	830	918	1,665	1,060	1,361	230	734	100	153	28	71	438	314	58	379	50	5

Harrison.....	2,609	73	304	2,432	1,832	179	1,032	412	576	109	188	113	146	187	217	34	305	17	26
Hendricks.....	2,685	58	346	1,273	2,526	1,194	1,617	281	596	53	129	12	120	553	438	108	310	25	2
Henry.....	2,949	219	436	1,209	1,986	1,758	1,920	280	881	161	301	33	115	664	457	126	694	123	6
Howard.....	2,845	82	196	1,080	2,077	839	1,816	122	580	85	189	11	56	364	273	202	415	46	6
Huntington.....	2,792	70	124	1,981	2,382	616	2,075	186	572	167	90	14	155	646	629	260	750	41	23
Jackson.....	2,767	43	1,428	813	1,889	1,024	1,403	90	491	41	101	29	200	388	418	17	240	14	18
Jasper.....	1,654	62	32	308	420	946	774	44	22	16	37	69	333	204	266	14	94	3	16
Jay.....	2,377	31	119	1,713	1,907	674	1,668	52	325	40	67	2	78	400	293	66	601	25	32
Jefferson.....	2,182	78	492	1,016	1,735	237	1,412	278	244	48	71	25	257	233	535	44	289	18	16
Jennings.....	1,588	40	660	450	1,378	431	925	90	209	67	31	16	335	134	404	61	302	14	12
Johnson.....	2,481	132	449	1,013	1,842	1,307	1,473	241	919	220	329	31	79	663	433	79	296	82	46
Knox.....	2,815	238	449	704	1,874	449	1,408	167	778	131	320	56	69	543	318	81	220	42	51
Kosciusko.....	3,265	32	1,600	1,700	2,644	748	1,839	154	576	94	194	78	143	564	569	142	746	38	10
Lagrange.....	1,850	81	82	766	1,894	1,001	1,711	105	527	69	229	112	214	427	635	171	990	42	18
Lake.....	1,494	76	176	256	416	1,083	1,026	62	28	26	106	36	552	381	738	23	174	4	27
Laporte.....	2,985	140	117	514	1,386	1,223	1,658	148	391	67	292	66	461	223	620	60	758	34	24
Lawrence.....	1,573	50	188	1,585	1,440	294	794	92	174	23	38	5	191	92	223	19	98	146	7
Madison.....	2,896	123	245	1,349	2,335	1,400	1,578	194	698	108	341	27	82	394	331	83	458	40	245
Marion.....	2,935	135	738	1,601	3,021	1,321	1,955	316	708	163	275	34	218	577	660	95	376	31	11
Marshall.....	2,149	64	78	988	2,047	313	1,573	96	355	87	164	22	90	334	380	69	560	29	57
Martin.....	1,141	24	320	1,046	615	77	1,502	302	109	12	22	4	85	82	116	10	94	2	22
Miami.....	3,429	121	215	1,810	2,495	779	1,694	159	1,008	154	202	53	101	573	395	134	623	44	18
Monroe.....	1,598	12	173	1,034	1,289	209	786	74	110	13	75	2	239	116	273	33	135	2	20
Montgomery.....	2,803	299	555	976	2,064	1,972	2,077	223	928	108	416	45	91	733	645	172	549	44	20
Morgan.....	2,095	83	367	1,039	1,998	908	1,311	106	609	64	104	6	182	360	382	46	248	22	5
Newton.....	1,129	129	51	146	205	1,019	737	25	14	21	26	14	166	185	235	10	32	2	24
Noble.....	2,462	52	74	1,305	2,213	626	1,808	80	483	29	186	41	185	590	623	298	1,108	53	9
Ohio.....	628	4	36	413	562	97	373	23	84	17	23	2	35	101	119	16	114	.....	10
Orange.....	2,096	45	274	1,578	1,092	162	831	75	114	22	37	13	130	83	174	32	104	10	17
Owen.....	1,650	14	579	1,091	1,601	328	1,031	81	177	31	58	16	863	218	397	73	222	12	28
Park.....	2,198	172	620	790	1,700	1,326	1,845	275	593	80	253	71	88	530	431	105	390	40	20
Perry.....	1,239	72	803	908	375	38	709	76	36	13	16	2	86	84	85	5	35	4	16
Pike.....	2,110	58	1,625	1,308	462	129	1,121	93	226	26	73	6	101	248	227	7	422	9	20
Porter.....	1,555	51	38	513	769	724	1,009	60	66	28	156	40	310	174	379	59	207	21	13
Posey.....	2,630	177	2,872	305	1,101	181	1,480	197	820	32	195	87	108	673	462	167	313	37	22
Pulaski.....	1,010	54	86	504	709	322	695	52	157	5	138	11	296	111	306	32	121	15	21
Putnam.....	2,087	118	416	1,035	1,896	902	1,178	186	419	53	131	92	223	414	340	92	166	12	22
Randolph.....	3,261	189	405	1,247	2,374	1,981	2,220	302	721	80	268	39	153	544	375	150	710	69	61
Ripley.....	2,487	44	840	863	2,207	287	2,250	335	342	16	122	39	362	304	718	78	436	16	43
Rush.....	2,813	121	374	1,146	1,901	1,912	1,923	235	1,468	129	426	51	116	502	450	119	499	56	3
Scott.....	935	22	362	322	979	111	540	130	107	69	27	3	156	63	148	8	112	12	1
Shelby.....	3,007	125	281	1,575	2,570	1,506	1,921	245	1,272	125	425	96	114	463	370	70	392	39	15
Spencer.....	2,520	102	2,622	1,322	1,121	118	1,476	133	1,50	194	70	6	245	208	400	38	192	17	183
Stark.....	374	67	38	152	383	62	156	22	27	2	7	1	100	7	98	3	67	7	8
St. Joseph.....	2,071	124	100	462	1,794	676	1,346	74	431	86	172	122	210	399	627	103	446	21	47
Stonben.....	1,777	6	37	591	1,621	561	1,338	86	307	29	87	18	210	322	485	66	814	7	7
Sullivan.....	2,922	353	1,828	823	2,001	401	1,510	387	714	60	223	39	70	628	248	21	219	19	9
Switzerland.....	1,185	28	157	1,125	1,123	164	886	127	181	75	41	5	241	197	347	41	190	3	32
Tippecanoe.....	3,173	378	168	1,573	1,569	2,245	2,004	135	688	115	435	38	104	511	468	53	536	12	28
Tipton.....	1,862	61	174	786	1,473	409	851	65	257	35	101	10	37	302	160	39	246	17	15

TABLE No. XXII.—Continued.

Counties.	Common Break- ins Plovs.	Riding Break- ing Plovs.	One-horse "Bar- shear" Plovs.	Sidgle Shovel Plovs.	Double Shovel Plovs.	Wheel Cultiva- tors.	Two-horse Har- rows	One-horse Har- row Cultiva- tors	Wheat or Seed Drills.	Broadcast Seed Sowers.	Drop Rake Reapers.	Reapers, Self- blinding.	Mowers.	Reapers and Mowers Com- bined.	Horse Hay Rakes.	Hay Loaders, Litters and Stackers.	Fanning Mills.	Steam Threshers.	Horse Power Threshers.
Union.....	1,025	58	406	348	606	669	705	142	538	35	111	6	26	246	180	29	367	8	6
Vanderburgh.....	2,022	63	1,725	301	600	45	1,056	77	445	18	125	34	80	414	396	43	124	12	18
Vermillion.....	1,700	106	1,940	610	834	889	1,885	204	483	50	172	34	34	302	177	18	208	8	13
Vigo.....	2,150	177	1,446	491	1,515	667	1,118	86	548	71	183	46	51	419	288	35	248	12	25
Wabash.....	2,721	104	1,328	1,981	2,562	1,046	1,966	256	807	322	214	67	214	653	608	258	694	64	17
Warren.....	1,793	113	92	1,505	651	1,196	1,937	99	188	52	119	31	132	295	274	43	163	22	13
Warrick.....	2,450	142	2,622	1,543	384	204	1,397	81	192	47	71	17	293	307	384	111	128	19	11
Washington.....	2,322	69	1,622	1,622	1,908	378	1,364	233	222	27	70	9	344	168	493	61	352	6	7
Wayne.....	2,982	158	799	1,154	2,058	1,779	2,023	378	798	108	293	32	117	562	607	126	768	41	19
Wells.....	2,651	122	94	1,633	2,045	336	1,626	276	293	67	48	10	149	670	465	66	658	32	48
White.....	2,008	120	50	1,617	2,714	1,313	1,151	54	144	22	66	53	193	269	280	38	155	12	9
Whitley.....	1,909	31	75	1,239	1,796	352	1,422	68	274	18	52	4	110	537	509	91	588	34	15
Total.....	198,834	8,718	46,783	99,459	144,308	67,621	125,737	14,812	41,574	6,676	14,678	3,013	14,827	35,494	25,185	6,781	35,801	2,519	2,178

TABLE No. XXIII.

Statement showing the Number of Rods of Fences of the Various Kinds, as reported by the Assessors in April, 1880.

Counties.	Rods of Rail or Worm Fence.	Rods of Post and Rail Fence.	Rods of Plank Fence.	Rods of Stone Fence.	Rods of Willow Hedge Fence.	Rods of Osage Hedge Fence.	Rods of Wire Fence.	Rods of Barbed Wire Fence.
Adams.....	1,217,354	58,905	28,660	62	80	5,801	5	50
Allen.....	2,296,571	12,109	260,571	91	85	3,471	12	722
Bartholomew.....	1,211,366	11,367	82,558	2,070	135	8,245	78	400
Benton.....	43,190	4,545	128,935	365	5,100	162,952	2,843	12,917
Blackford.....	624,185	2,591	8,977	.....	566	670	.....	.....
Boone.....	1,348,704	5,773	32,660	110	25	1,703	226	738
Brown.....	755,777	3,081	5,241	20	.....	389	.....	.....
Carroll.....	1,153,615	5,461	44,016	459	415	9,029	86	380
Cass.....	1,468,919	19,167	58,197	539	490	3,645	154	.....
Clark.....	722,750	36,326	147,265	6,800	3,058	2,364	519	167
Clay.....	1,065,853	16,154	85,611	210	.....	2,560	290	22
Clinton.....	1,534,862	8,666	44,512	150	50	3,250	376	20
Crawford.....	774,352	24,529	4,387	74	.....	200	.....	16,650
Daviess.....	1,501,362	4,483	23,614	160	125	5,308	658	.....
Dearborn.....	1,010,530	26,557	59,113	20,800	706	38,905	1,414	1,619
Decatur.....	1,331,285	6,481	66,674	1,180	455	17,791	381	2,158
DeKalb.....	1,570,005	35,482	64,026	295	170	165	66	40
Delaware.....	1,586,917	9,859	39,641	603	1,030	3,007	280	40
Dubois.....	1,330,829	1,427	6,136	43	.....	2,375	8	80
Elkhart.....	1,864,525	22,901	180,672	152	580	23,430	1,580	447
Fayette.....	791,394	5,811	95,132	61	352	35,823	4,470	837
Floyd.....	510,576	11,162	21,708	206	.....	1,078	.....	100
Fountain.....	1,110,699	4,465	43,765	364	2,187	17,746	825	260
Franklin.....	1,458,210	16,083	55,942	3,724	482	9,775	305	581
Fulton.....	951,538	4,566	58,038	339	633	6,659	32	14
Gibson.....	1,127,753	2,658	40,296	.....	337	17,592	865	95
Grant.....	1,223,658	14,214	25,746	10	3	1,486	40	10
Greene.....	1,578,538	6,517	33,360	664	580	2,083	545	.....
Hamilton.....	1,603,935	19,467	59,225	476	60	2,487	.....	20
Hancock.....	1,035,489	2,681	47,612	35	1,450	3,656	425	136
Harrison.....	2,092,648	17,048	44,903	1,363	137	4,865	.....	59
Hendricks.....	1,963,489	7,093	60,788	5	491	10,210	34	440
Henry.....	1,718,408	21,204	73,726	189	346	18,938	604	.....
Howard.....	960,312	1,689	52,305	14	300	991	66	.....
Huntington.....	1,564,932	5,184	113,548	245	160	1,783	141	142
Jackson.....	1,210,344	8,276	53,147	95	276	3,085	.....	.....
Jasper.....	251,864	53,312	43,660	875	1,709	48,702	5,822	1,929
Jay.....	1,433,859	2,057	20,840	.....	.....	1,635	.....	.....
Jefferson.....	1,155,454	27,370	64,819	8,281	213	5,734	91	.....
Jennings.....	919,563	5,820	46,740	2,316	60	1,135	100	.....
Johnson.....	1,391,797	8,971	85,180	222	2,798	3,504	465	732
Knox.....	1,017,811	10,340	19,607	283	2,159	8,899	4,338	3,262
Kosciusko.....	1,744,478	12,947	118,159	1,982	155	3,127	19	320
Lagrange.....	1,194,675	16,189	62,277	3,614	1,278	12,657	327	55
Lake.....	105,231	195,485	186,608	250	3,310	84,846	56,530	20,669
Laporte.....	904,373	58,177	181,006	370	3,377	91,678	5,096	8,605
Lawrence.....	1,543,408	14,254	67,056	2,994	.....	850	6	104
Madison.....	1,654,118	5,092	36,518	130	465	4,692	88	372
Marion.....	1,280,576	7,869	139,382	213	479	6,041	1,756	5,262
Marshall.....	1,121,533	26,538	109,181	1,720	737	4,432	30	.....
Martin.....	957,226	1,808	8,159	373	.....	723	1	4
Miami.....	1,466,643	8,587	70,947	38	116	2,121	480	70
Monroe.....	849,214	7,035	18,879	6,292	721	1,003	58	15
Montgomery.....	1,733,270	8,106	65,238	2,710	150	20,270	1,037	595
Morgan.....	1,150,847	5,827	52,963	.....	170	3,020	284	714

TABLE No. XXIII.—Continued.

Counties.	Rods of Rail or Worm Fence.	Rods of Post and Rail Fence.	Rods of Plank Fence.	Rods of Stone Fence.	Rods of Willow Hedge Fence.	Rods of Osage Hedge Fence.	Rods of Wire Fence.	Rods of Barbed Wire Fence.
Newton.....	51,118	78,362	76,459	634	7,836	12,232	17,086	20,410
Noble.....	1,268,519	5,484	69,870	232	1,205	2,761	417	249
Ohio.....	298,809	2,003	10,281	10,327	.....	1,395	45	190
Orange.....	1,223,018	7,679	12,877	217	5	543	.....	.....
Owen.....	1,452,239	3,903	34,051	228	.....	5,596	561	110
Parke.....	1,667,902	9,982	58,277	120	2,560	12,458	435	778
Perry.....	620,065	41,899	7,881	260	20	2,074	.....	.....
Pike.....	1,176,078	6,772	9,058	60	.....	2,309	222	.....
Porter.....	731,396	77,015	84,850	419	7,738	40,397	1,825	54,508
Posey.....	829,252	27,982	65,837	.....	1,455	8,944	1,619	606
Pulaski.....	318,140	58,034	46,868	1,033	900	6,563	2,369	3,148
Putnam.....	1,484,468	5,764	70,851	770	245	3,739	285	598
Randolph.....	1,896,297	9,787	35,851	52	680	11,010	102	65
Ripley.....	1,879,642	6,326	62,898	6,174	315	10,543	200	640
Rush.....	1,788,044	4,798	96,960	380	697	27,214	8,072	199
Scott.....	530,209	8,274	13,629	71	.....	2,089	.....	20
Shelby.....	1,377,791	8,463	61,601	733	1,521	17,408	1,235	934
Spencer.....	1,058,808	48,101	27,809	1,569	.....	3,615	.....	152
Starke.....	1,144,189	19,051	26,919	280	6	1,052	220	815
St. Joseph.....	1,061,268	13,305	127,170	536	420	44,456	510	1,175
Steuben.....	1,342,782	22,526	46,211	786	40	3,240	220	.....
Sullivan.....	1,505,144	13,066	25,822	50	191	8,437	116	.....
Switzerland.....	527,841	39,678	23,586	11,167	89	1,209	235	1,712
Tippecanoe.....	851,213	10,328	117,085	848	1,464	76,336	1,713	3,127
Tipton.....	849,798	2,444	14,824	152	10	1,540	320	460
Union.....	535,370	2,379	66,542	54	720	43,770	914	40
Vanderburgh.....	437,250	8,635	19,990	250	.....	6,541	250	80
Vermillion.....	521,471	6,196	19,513	550	1,993	18,865	320	.....
Vigo.....	801,311	16,915	44,256	15	230	14,275	41	3,385
Wabash.....	2,189,279	260,500	98,940	8,982	720	4,853	90	.....
Warren.....	373,959	7,245	65,291	237	1,151	79,332	2,397	3,743
Warrick.....	1,209,496	12,714	33,123	1,662	180	9,552	266	40
Washington.....	1,550,127	14,210	29,643	5,616	15	3,057	444	8
Wayne.....	1,809,386	36,879	131,651	1,795	2,927	77,578	602	545
Wells.....	1,689,224	16,696	59,302	547	20	4,656	225	.....
White.....	401,108	17,714	94,547	2,656	3,917	68,540	12,647	13,746
Whitley.....	1,283,779	4,777	35,512	20	.....	388	.....	40
Total.....	106,858,743	1,873,702	5,445,850	142,708	77,431	1,431,538	144,862	193,065

TABLE No. XXIV.

Statement showing the Number of Horses, by Ages, for each County, at the time of Assessing, as reported by the Assessors in April, 1880.

Counties.	Number of Horses by Ages.					Total.
	1 year old and under.	1 to 2 years old.	2 to 3 years old.	3 to 4 years old.	4 years old and over.	
Adams.....	424	508	574	439	3,151	5,094
Allen.....	743	778	696	685	3,012	10,914
Bartholomew.....	360	338	267	208	3,916	5,089
Benton.....	377	355	327	225	4,191	5,475
Blackford.....	115	199	147	128	1,578	2,167
Boone.....	669	557	399	538	4,154	6,317
Brown.....	298	288	187	295	1,684	2,752
Carroll.....	458	420	340	281	3,887	5,386
Cass.....	533	693	380	350	5,574	7,530
Clark.....	268	230	236	213	3,061	3,997
Clay.....	460	292	292	403	3,475	4,862
Clinton.....	1,029	789	682	435	5,370	8,205
Crawford.....	238	210	168	124	1,722	2,457
Daviess.....	409	379	324	318	3,716	5,144
Dearborn.....	268	226	159	189	3,283	4,125
Decatur.....	598	423	353	401	4,632	6,407
DeKalb.....	468	344	313	404	3,953	5,482
Delaware.....	527	358	287	514	3,790	5,476
Dubois.....	298	268	214	267	2,961	4,008
Elkhart.....	930	664	603	523	5,635	8,355
Fayette.....	318	295	255	282	2,848	3,998
Floyd.....	78	97	83	66	1,300	1,614
Fountain.....	639	482	376	411	4,368	6,276
Franklin.....	394	353	300	289	4,217	5,553
Fulton.....	346	307	252	256	3,030	4,191
Gibson.....	418	594	230	319	4,380	5,941
Grant.....	552	512	472	383	4,165	6,084
Greene.....	554	433	274	365	4,161	5,787
Hamilton.....	592	556	451	446	4,912	6,957
Hancock.....	349	324	306	298	3,951	5,228
Harrison.....	622	392	302	342	4,323	5,981
Hendricks.....	722	511	441	446	5,039	7,159
Henry.....	888	720	543	493	5,974	8,618
Howard.....	470	398	303	317	4,387	5,875
Huntington.....	563	428	476	374	5,158	6,999
Jackson.....	297	234	230	219	3,847	4,827
Jasper.....	580	397	368	566	2,638	4,549
Jay.....	625	546	438	322	4,262	6,193
Jefferson.....	371	347	284	264	3,501	4,767
Jennings.....	314	275	268	226	2,765	3,848
Johnson.....	488	497	410	355	7,010	8,760
Knox.....	302	197	189	229	3,374	4,291
Kosciusko.....	706	531	623	639	5,182	7,681
Lagrange.....	634	492	469	308	4,308	6,311
Lake.....	594	642	474	396	3,719	5,825
Laporte.....	690	556	457	433	5,613	7,749
Lawrence.....	1,088	809	819	584	2,539	5,838
Madison.....	533	407	295	317	4,552	6,104
Marion.....	502	408	353	313	8,144	9,720
Marshall.....	541	420	309	266	4,216	5,759
Martin.....	255	251	161	127	1,793	2,587
Miami.....	564	492	451	587	4,762	6,856
Montgomery.....	689	652	548	473	5,950	8,312
Monroe.....	298	281	283	208	2,633	3,708
Morgan.....	482	518	311	299	3,761	5,371
Newton.....	357	615	266	615	2,527	4,380
Noble.....	600	510	466	424	4,627	6,627
Ohio.....	54	38	28	28	894	1,042
Orange.....	396	291	292	275	2,763	4,017

TABLE No. XXIV.—Continued.

Counties.	Number of Horses by Ages.					
	1 year old and under.	1 to 2 years old.	2 to 3 years old.	3 to 4 years old.	4 years old and over.	Total.
Owen	457	359	347	287	2,893	4,343
Parke.....	554	456	402	439	4,759	6,610
Perry.....	210	379	111	120	1,848	2,668
Pike.....	372	296	198	223	3,316	4,405
Porter.....	472	279	308	211	2,917	4,187
Posey.....	162	192	123	100	3,129	3,706
Pulaski.....	366	283	268	168	1,634	2,719
Putnam.....	779	644	632	467	4,806	7,328
Randolph.....	738	668	524	602	5,706	8,238
Ripley.....	482	456	304	249	4,484	5,975
Rush.....	744	681	562	661	5,495	8,143
Scott	207	199	112	144	1,563	2,225
Shelby.....	536	520	427	393	5,787	7,663
Spencer.....	320	366	198	142	3,444	4,468
Starke.....	75	93	62	38	734	1,002
St. Joseph.....	424	437	335	290	5,444	6,930
Stauben.....	411	340	297	313	3,604	4,965
Sullivan	537	608	331	358	5,000	6,834
Switzerland.....	230	194	207	180	1,974	2,785
Tippecanoe	707	571	465	361	6,807	8,911
Tipton.....	313	306	207	312	2,523	3,661
Union.....	261	181	153	148	1,597	2,340
Vanderburgh	156	132	79	95	3,411	3,872
Vermillion.....	335	288	176	202	2,676	3,677
Vigo.....	302	272	227	203	3,843	4,847
Wabash	827	621	554	518	5,907	8,427
Warren.....	468	568	541	574	3,021	5,172
Warrick.....	412	326	259	226	3,607	4,830
Washington	495	707	299	426	3,929	5,856
Wayne	679	603	464	436	6,859	9,091
Wells.....	609	491	382	361	4,331	6,174
White	445	403	360	327	3,831	5,366
Whitley.....	522	471	374	399	3,247	5,013
Total.....	43,539	35,616	30,924	30,613	359,453	503,045

PER CENT. OF TOTAL BY AGES.

One year old and under.....	8.65 per cent. of whole.
One to two years old.....	7.68 per cent. of whole.
Two to three years old.....	6.15 per cent. of whole.
Three to four years old.....	6.07 per cent. of whole.
Four years old and over.....	71.45 per cent. of whole.

Total of all ages..... 100.00 per cent.

NOTE.—In the counties in which the larger cities are situated, it will be seen that the proportion of adult horses to the whole number is considerably greater than in the more rural counties. This is as it should be, as in the cities adult horses only are wanted, and shows the probable correctness of the statistics on this subject. It seems, however, that Knox and Marion counties ought to report a greater per cent. of adults. The former reports 79 per cent., and the latter 83 per cent. Lawrence reports only 43½ per cent. of adults, indicating a large export. There is an adult horse to every 5½ persons in the State. Four and one-half must “ride behind” or go afoot. This ratio will decrease in the future, as in the past. The number of horses reported since the act of 1873 requiring statistics has been in operation is as follows:

Number of horses in 1874.....	518,102
Number of horses in 1875.....	511,136
Number of horses in 1876.....	518,534
Number of horses in 1877.....	531,361
Number of horses in 1878.....	536,316
Number of horses in 1879.....	558,656
Number of horses in 1880.....	503,045

The taxable polls have increased about 18 per cent. since 1874, which would be about true of population, while the number of horses has increased only 8 per cent. up to 1879; and by the return of 1880, probably the most correct yet taken, there is shown a loss of about 3 per cent. since 1874.

TABLE No. XXV.

Statement showing the Number of Mules, by Ages, for each County, at the time of Assessing, as reported by the Assessors in April, 1880.

Counties.	Number of Mules by Ages.					Total.
	1 year old and under.	1 to 2 years old.	2 to 3 years old.	3 to 4 years old.	4 years old and over.	
Adams	25	8	36	32	89	180
Allen	24	15	15	14	230	298
Bartholomew	70	60	82	159	1,336	1,707
Benton	28	20	32	68	690	838
Blackford	8	10	10	11	79	118
Boone	150	52	33	53	211	499
Brown	55	33	26	47	280	441
Carroll	49	34	21	33	334	471
Cass	21	16	12	39	448	536
Clark	56	50	45	121	350	622
Clay	13	41	27	28	469	578
Clinton	43	31	12	43	848	477
Crawford	43	37	33	37	154	304
Davies	110	68	56	288	674	1,196
Dearborn	83	28	20	40	548	669
Decatur	129	116	162	107	468	982
Dekalb	16	15	4	2	230	267
Delaware	35	23	48	25	371	502
Dubois	37	35	32	39	348	491
Elkhart	15	5	18	7	244	289
Fayette	21	14	25	49	253	362
Floyd	6	14	6	9	95	130
Fountain	69	82	56	85	501	793
Franklin	54	42	42	50	536	724
Fulton	39	17	11	37	304	408
Gibson	109	84	56	100	1,038	1,387
Grant	89	28	16	16	240	389
Greene	107	252	84	70	455	968
Hamilton	81	89	39	27	374	610
Hancock	17	15	11	22	220	285
Harrison	79	60	60	40	379	618
Hendricks	223	143	89	64	498	1,017
Henry	20	40	84	37	346	527
Howard	30	26	28	13	230	327
Huntington	37	22	18	15	302	384
Jackson	102	72	84	135	881	1,274
Jasper	46	19	6	7	246	324
Jay	23	13	4	5	228	271
Jefferson	65	60	42	57	387	611
Jennings	46	77	42	24	334	523
Johnson	60	94	84	71	679	988
Knox	193	155	177	416	1,508	2,449
Kosciusko	42	24	48	14	261	389
Lagrange	5	128	8	2	112	255
Lake	13	10	9	8	147	187
Laporte	18	19	19	15	397	468
Lawrence	323	268	104	127	247	1,159
Madison	64	43	37	39	449	632
Marion	26	42	44	42	728	882
Marshall	15	10	13	12	242	292
Martin	175	39	44	29	172	459
Miami	23	18	9	46	249	345
Monroe	204	85	41	36	268	634
Montgomery	121	122	52	95	680	1,070
Morgan	138	137	70	48	678	1,071
Newton	19	19	33	217	343	631
Noble	10	14	12	23	213	272

TABLE No. XXV.—Continued.

Counties.	Number of Mules by Ages.					Total.
	1 year old and under.	1 to 2 years old.	2 to 3 years old.	3 to 4 years old.	4 years old and over.	
Ohio	11	10	2	18	314	355
Orange.....	125	103	77	40	174	519
Owen.....	64	57	20	18	261	420
Park.....	284	106	175	185	482	1,232
Perry	30	23	15	14	352	434
Pike	81	53	45	62	435	676
Porter	11	5	39	23	116	194
Posey	68	54	70	277	1,796	2,265
Pulaski.....	138	19	23	20	417	617
Putnam.....	184	154	74	51	132	595
Randolph	85	81	35	49	291	541
Ripley	72	61	63	47	397	610
Rush.....	58	36	15	15	219	343
Scott.....	53	35	39	36	172	335
Shelby	88	36	31	252	470	877
Spencer	72	84	49	31	756	992
Starke .....	.....	13	9	2	103	127
Steuben.....	18	9	11	15	81	134
St. Joseph.....	11	22	27	17	237	314
Sullivan.....	114	56	67	70	543	850
Switzerland	20	23	49	28	604	724
Tippecanoe.....	104	30	38	37	696	905
Tipton	17	13	18	19	154	221
Union.....	15	33	30	18	266	362
Vanderburgh.....	19	32	25	25	1,853	1,954
Vermillion	9	15	22	30	226	302
Vigo	37	38	19	28	676	798
Wabash.....	63	45	21	10	307	446
Warren.....	92	37	33	61	252	475
Warrick	104	88	84	76	836	1,188
Washington	185	119	179	90	352	925
Wayne.....	10	17	30	80	303	440
Wells.....	20	26	12	32	220	310
White.....	40	25	22	51	387	525
Whitley.....	32	21	17	12	118	200
Total.....	5,996	4,672	3,906	5,124	38,117	57,815

PER CENT. OF WHOLE BY AGES OF MULES AND HORSES.

	Mules.	Horses.
One year old and under.....	10.37 per cent.	8.65 per cent.
One to two years old.....	8.08 per cent.	7.68 per cent.
Two to three years old.....	6.76 per cent.	6.15 per cent.
Three to four years old.....	8.86 per cent.	6.07 per cent.
Four years old and over.....	65.93 per cent.	71.45 per cent.
Total	100.00 per cent.	100.00 per cent.

The number of mules between three and four years old seem to be above the proper proportion

TABLE No. XXVI.

Statement showing the Number of Cattle, Hogs and Sheep by Ages, by Counties, as reported by the Assessors in April, 1880.

Counties.	Cattle.					Hogs.		Sheep.		
	One year old and under.	One to two years old.	Two to three years old.	Three years and over.	Total.	Number killed in 1879.	Number sold to old in 1880.	Number of grown sheep.	Number of lambs.	Total.
Adams.....	4,123	3,024	1,945	4,945	14,087	19,417	20,118	13,094	5,763	18,847
Allen.....	5,887	4,643	2,371	8,166	21,067	32,512	29,428	18,614	9,572	28,086
Bartholomew.....	3,632	2,768	1,839	4,160	12,279	34,212	23,952	6,278	4,632	10,810
Benton.....	2,667	3,472	6,223	3,049	14,411	19,129	17,109	3,806	2,289	6,095
Blackford.....	1,015	1,079	639	1,496	4,429	11,295	9,316	7,411	3,671	11,082
Boone.....	3,926	2,750	1,529	3,339	11,544	41,050	25,524	16,368	8,793	25,161
Brown.....	1,953	931	1,499	1,781	5,114	7,590	8,056	6,027	3,452	9,479
Carroll.....	3,889	2,770	1,625	3,851	12,135	26,157	21,744	11,625	6,038	17,663
Cass.....	4,747	2,901	1,573	4,638	13,859	27,974	25,058	15,525	6,519	22,044
Clark.....	1,785	1,927	1,238	4,710	9,610	16,294	11,516	7,082	7,262	13,284
Clay.....	3,468	2,154	1,409	3,636	10,697	36,645	16,888	7,010	3,317	10,327
Clinton.....	4,340	3,260	1,543	4,483	13,616	36,443	30,289	8,617	4,180	12,697
Crawford.....	1,477	1,018	626	2,142	6,262	7,030	6,137	6,319	7,438	10,697
Davies.....	3,265	2,543	1,561	3,293	10,662	29,260	17,590	10,595	5,515	16,110
Dearborn.....	2,149	1,266	661	3,049	7,115	13,877	11,565	6,102	7,309	11,411
Decatur.....	4,043	3,206	2,612	4,161	14,021	35,576	26,575	11,042	6,439	17,481
Dekalb.....	5,100	2,554	1,293	5,194	14,141	19,175	22,999	20,755	8,383	29,138
Delaware.....	3,792	3,235	1,859	4,358	13,244	32,942	29,591	10,823	6,061	16,884
Dubois.....	3,721	2,322	1,384	2,835	10,262	16,634	13,312	9,087	5,219	14,306
Elkhart.....	7,086	3,780	2,055	5,763	18,678	20,927	21,208	23,576	11,732	35,308
Fayette.....	2,280	1,657	1,201	2,691	7,729	38,839	44,814	8,050	4,273	12,323
Floyd.....	672	1,466	281	1,843	3,262	15,499	3,624	1,778	7,258	3,036
Fountain.....	3,698	2,878	1,907	3,300	11,783	37,299	27,210	16,924	7,873	24,797
Franklin.....	3,351	2,154	1,179	3,063	9,747	31,026	21,680	10,046	5,853	15,899
Fulton.....	3,341	2,556	1,740	3,066	10,708	17,771	17,210	11,319	4,988	16,315
Gibson.....	4,177	2,764	1,804	3,843	12,578	25,894	29,024	5,827	7,411	9,238
Grant.....	3,306	2,212	1,260	2,357	9,136	29,631	28,150	14,643	5,334	19,977
Greene.....	4,199	3,234	2,427	3,608	13,468	31,694	20,323	17,295	8,565	25,860

TABLE No. XXVI.—Continued.

Counties.	Cattle.					Hogs.		Sheep.		
	One year old and under.	One to two years old.	Two to three years old.	Three years old and over.	Total.	Number fattened in 1879.	Number sold in 1880.	Number of grown sheep.	Number of lambs.	Total.
Hamilton	3,712	3,192	1,751	3,799	12,454	46,183	35,660	9,207	5,180	14,387
Hancock	2,980	2,113	1,233	3,283	9,609	32,782	23,084	6,113	3,227	9,340
Harrison	2,424	2,173	1,350	4,692	10,639	16,257	15,840	9,824	7,700	17,524
Hendricks	5,456	4,148	3,996	7,249	20,849	57,206	37,681	20,076	12,455	32,531
Henry	5,192	3,563	2,236	4,943	15,934	49,386	73,963	11,417	7,846	19,883
Howard	2,948	2,209	1,073	2,687	8,917	25,578	21,575	5,777	3,253	9,030
Huntington	4,589	3,007	1,941	6,413	14,950	34,678	31,377	8,352	7,412	13,764
Jackson	3,619	2,538	1,445	3,327	10,929	26,174	18,529	8,066	4,741	12,807
Jasper	4,007	3,547	3,583	2,956	14,092	17,519	9,951	4,024	1,882	5,406
Jay	8,671	2,887	1,309	2,845	10,712	26,341	23,240	16,210	7,554	23,764
Jefferson	2,688	2,063	1,308	3,756	9,725	16,870	14,728	9,538	7,939	16,477
Jennings	2,641	2,695	1,155	2,719	9,210	14,437	16,899	8,272	4,868	13,140
Johnson	4,265	2,576	1,871	2,658	11,670	33,445	28,767	6,522	7,343	11,865
Knox	3,834	2,593	1,761	4,196	11,887	25,874	21,687	7,896	4,810	12,706
Kosciusko	6,499	3,930	2,834	4,000	16,763	30,271	33,628	17,654	7,922	25,576
Lagrange	4,453	3,049	1,696	4,924	14,122	18,911	17,541	32,072	10,854	42,926
Lake	4,635	3,998	2,128	8,045	18,806	21,766	14,724	4,718	1,311	6,029
Laporte	4,360	3,865	2,151	6,988	17,354	26,069	21,703	15,162	6,910	22,072
Lawrence	3,667	3,211	2,940	3,705	12,723	19,335	15,682	11,272	6,656	17,928
Madison	4,452	3,172	1,522	4,011	13,157	42,766	30,016	12,682	6,026	18,708
Marion	3,353	2,387	1,541	6,409	13,690	40,203	30,883	11,077	7,510	18,587
Marshall	4,512	2,356	1,210	5,219	13,297	22,294	19,777	9,326	4,651	13,977
Martin	2,016	1,419	793	2,286	6,514	11,098	9,291	8,297	4,866	13,163
Miami	4,852	3,638	2,271	4,603	15,364	31,784	27,677	9,397	3,913	13,310
Monroe	2,813	2,300	1,967	3,107	10,187	15,323	12,047	13,667	6,593	20,260
Montgomery	5,235	4,738	2,575	6,423	18,970	50,215	41,763	32,733	11,305	44,038
Morgan	3,342	2,920	1,881	3,000	11,148	38,718	24,227	9,957	5,426	15,883
Newton	2,479	2,354	2,268	3,340	10,371	17,498	8,817	5,228	1,245	6,473
Noble	5,505	3,648	2,079	6,610	16,842	21,155	25,047	20,692	7,156	36,273
Ohio	511	453	233	880	2,027	4,632	3,229	2,415	7,220	4,635
Orange	2,450	1,766	1,171	2,613	8,000	16,671	14,765	14,265	8,365	22,630
Owen	4,227	3,282	2,279	4,454	14,242	20,024	15,118	26,662	14,253	40,915
Parke	3,566	2,919	2,171	3,961	12,617	30,017	26,673	13,180	9,022	27,202
Perry	1,628	1,619	670	2,266	6,183	8,601	10,292	5,081	3,200	8,281
Pike	2,243	1,767	1,133	2,882	7,520	20,107	17,611	7,900	4,398	12,298

Porter	4,385	2,458	1,560	5,756	14,109	24,526	17,902	7,225	1,888	9,113
Posey.....	1,639	1,590	1,870	8,069	7,108	18,911	16,006	2,743	1,313	8,966
Pulaski.....	6,038	2,375	1,797	2,680	10,884	9,984	6,527	6,695	2,503	9,198
Putnam.....	4,981	4,887	4,265	6,139	20,262	38,306	28,467	24,728	9,890	34,668
Randolph.....	4,264	3,417	2,510	5,506	15,697	47,839	36,845	18,888	6,278	25,166
Ripley	3,270	3,273	1,779	4,946	13,268	19,343	13,583	9,903	77,140	17,043
Rush.....	4,453	3,687	2,591	3,929	14,660	58,176	46,140	14,460	7,777	23,237
Scott.....	1,192	4,926	1,544	1,740	4,402	11,885	6,632	6,280	8,567	9,847
Shelby	3,898	2,876	1,482	4,418	12,173	47,284	36,629	6,684	3,867	10,551
Spencer.....	3,465	2,285	1,311	3,648	10,709	18,758	16,208	9,893	77,040	16,933
Starks	1,399	1,116	1,493	1,849	4,857	2,798	2,126	643	135	778
Stenben.....	3,323	2,271	1,002	5,526	12,122	22,280	17,424	26,413	6,466	32,879
St. Joseph	3,280	2,885	1,715	4,296	12,176	18,212	19,760	14,081	6,220	20,301
Sullivan.....	3,722	2,544	1,409	3,801	10,976	30,045	26,579	12,054	7,122	19,176
Switzerland	1,473	854	517	1,474	4,318	9,562	7,406	5,881	74,418	10,989
Tippecanoe	3,883	2,832	1,908	4,140	12,763	36,758	28,708	10,648	5,136	15,784
Tipton	1,992	1,732	1,119	2,438	7,281	19,711	47,850	6,546	2,687	9,223
Union	1,576	1,522	1,101	1,464	5,663	16,407	12,363	6,432	3,787	10,219
Vanderburgh.....	1,044	889	375	615	2,923	9,023	7,123	2,143	1,745	3,888
Vermillion	1,938	1,596	1,137	2,357	7,028	21,606	15,145	4,786	2,900	7,588
Vigo	1,856	1,255	819	3,118	7,048	15,214	14,072	3,234	1,925	5,159
Wabash.....	5,700	3,685	2,260	5,515	17,160	36,128	32,338	9,577	4,741	14,318
Warren	2,900	3,734	3,182	3,088	12,904	28,354	27,717	9,104	4,736	13,840
Warrick	2,992	1,977	1,346	3,445	9,760	17,727	14,569	9,325	76,986	16,291
Washington	3,670	2,496	2,053	4,064	12,283	22,884	18,131	15,209	711,387	26,586
Wayne.....	4,859	3,377	1,989	5,096	15,321	50,433	44,560	11,686	6,819	18,505
Wells	4,868	3,207	2,027	4,454	14,540	28,749	30,816	13,677	6,719	20,396
White.....	4,079	3,151	2,513	4,748	14,491	21,347	18,861	9,368	3,999	13,367
Whitley	3,690	2,705	1,930	3,936	12,261	22,588	18,317	9,547	4,453	14,000
Total.....	818,758	146,910	165,894	362,081	1,065,143	2,365,062	2,008,943	1,013,032	525,828	1,538,860

TABLE No. XXVII.

Statement showing the Number and Classification of Poultry sold and used for the Twelve Months Ending April, 1880, as reported by the Assessors.

Counties.	Dozens of Chick- ens.	Dozens of Tur- keys	Dozens of Geese.	Dozens of Ducks.	Dozens of Guin- eas.	Dozens of P e e Fowls.
Adams	4,584	279	810	171	209	184
Allen.....	10,826	650	565	316	20	18
Bartholomew.....	8,284	493	500	256	13	1,376
Benton.....	3,188	466	70	91	24	56
Blackford.....	1,868	172	239	22	2	.....
Boone	11,873	580	881	341	183	906
Brown.....	3,989	225	243	149	38	23
Carroll.....	5,189	591	380	128	25	834
Cass	10,041	233	151	176	16	170
Clark	4,280	428	306	134	29	9
Clay.....	5,580	284	617	112	28	388
Clinton.....	9,580	496	1,044	230	45	56
Crawford.....	2,452	99	128	17	3	233
Daviess.....	10,303	1,394	863	242	78	141
Dearborn	5,834	678	469	164	16	1,664
Decatur.....	6,205	442	492	290	17	304
DeKalb	9,014	522	384	297	33	183
Delaware.....	6,437	317	308	262	48	3
Dubois.....	3,012	50	280	85	.....	1
Elkhart.....	8,345	242	165	144	16	1
Fayette	5,913	352	234	174	100	500
Floyd.....	2,664	129	74	33	6	18
Fountain.....	7,250	1,029	539	107	59	390
Franklin	7,557	377	272	242	14	.....
Fulton.....	6,368	269	619	116	27	.....
Gibson	3,382	1,006	8,323	268	64	143
Grant.....	5,160	720	159	148	14	854
Greene.....	10,034	508	827	254	228	17
Hamilton	10,918	709	987	567	88	324
Hancock	6,523	395	292	190	87	484
Harrison.....	5,963	491	448	172	44	28
Hendricks	13,506	957	565	564	52	176
Henry	11,721	1,112	388	455	106	270
Howard	6,304	270	267	398	16	1
Huntington.....	6,308	444	247	194	3	4
Jackson	8,102	232	382	166	19	1,561
Jasper.....	4,576	724	234	85	7	158
Jay.....	6,546	385	334	254	87	18
Jefferson	5,423	315	209	205	12	15
Jennings.....	3,700	286	94	43	2	704
Johnson	12,998	610	1,194	522	35	462
Knox.....	8,540	433	311	304	47	27
Kosciusko	10,814	523	238	175	26	53
Lagrange.....	8,180	837	179	261	65	999
Lake.....	3,815	199	90	250	3	500
Laporte.....	5,241	385	555	180	22	306
Lawrence.....	5,344	2,656	998	275	57	157
Madison	8,570	785	736	387	31	1,048
Marion	11,591	953	410	571	82	409
Marshall	6,652	232	509	145	8	1
Martin.....	4,404	677	595	79	150	190
Miami.....	6,485	480	178	127	9	564
Monroe.....	5,637	406	740	124	13	55
Montgomery.....	11,028	662	650	110	65	47

TABLE No. XXVII.—Continued.

Counties.	Dozens of Chick- ens	Dozens of Tur- keys.	Dozens of Geese.	Dozens of Ducks.	Dozens of Guin- eas.	Dozens of Pea Fowls.
Morgan.....	8,888	467	401	233	43	120
Newton.....	3,322	2,423	142	86	94	24
Noble.....	7,805	395	237	314	15	.....
Ohio.....	1,378	66	15	2	13	1
Orange.....	4,330	161	275	60	118	4
Owen.....	7,361	425	390	91	34	105
Parke.....	7,630	419	480	317	152	259
Perry.....	3,241	158	156	19	4	101
Pike.....	7,596	218	1,196	230	48	266
Porter.....	5,945	211	169	216	96	856
Posey.....	5,458	245	526	89	18	2
Pulaski.....	3,293	10,980	127	79	38	195
Putnam.....	29,455	2,306	3,496	959	350	174
Randolph.....	8,634	743	446	453	83	4
Ripley.....	8,557	406	344	183	42	253
Rush.....	11,626	522	263	246	82	9
Scott.....	3,207	253	736	990	23	92
Shelby.....	11,898	619	526	428	25	132
Spencer.....	7,688	247	781	117	43	1,064
Starke.....	1,188	31	14	40	7	1
St. Joseph.....	5,193	156	157	80	10	614
Steuben.....	6,496	507	180	304	10	6
Sullivan.....	11,351	710	686	135	87	31
Switzerland.....	4,433	401	189	253	27	278
Tippecanoe.....	9,310	540	343	1,779	37	34
Tipton.....	5,929	207	466	460	130	283
Union.....	2,727	428	332	135	214	152
Vanderburgh.....	5,072	468	351	117	86	.....
Vermilion.....	8,880	247	222	26	102	62
Vigo.....	7,436	337	252	139	25	4,247
Wabash.....	8,715	914	598	249	55	127
Warren.....	13,035	421	254	206	51	12
Warrick.....	7,910	320	629	138	54	51
Washington.....	6,311	534	373	204	50	30
Wayne.....	11,291	1,009	372	219	59	120
Wells.....	6,071	326	609	252	12	330
White.....	7,395	421	239	87	24	221
Whitley.....	4,129	381	164	178	7	4
Total.....	663,849	58,713	48,348	21,835	4,748	26,686

NOTE.—The Bureau has but little confidence in the correctness of the reports which make up this table. It is the first time the inquiry has been made in this State, and the farmers (who instead of their wives, generally answer the assessor) know but little about their poultry. The people of Indiana have certainly consumed more than four chickens to the person during the year ending April, 1880, to say nothing of the shipments to such points as Chicago, Toledo, Cincinnati, Louisville, and "down the river."

TABLE No. XXVIII.

Statement showing the Number of Breeding Animals, kept as such, by Counties, as reported by the Assessors in April, 1880.

(Cows are reported as Breeders and Milkers.)

Counties.	Stallions.	Jacks.	Bulls.	Rams.	Boars.	Jennets.	Sows.	Cows.
Adams.....	38	5	171	195	171	42	2,475	5,226
Allen.....	? 181	6	301	? 430	324	19	3,364	? 10,094
Bartholomew.....	? 118	3	211	177	305	52	3,991	4,789
Benton.....	26	4	87	39	202	35	3,498	2,591
Blackford.....	15	1	56	98	83	6	1,115	1,568
Boone.....	57	14	193	244	323	60	5,015	4,612
Brown.....	11	10	42	99	68	27	1,200	2,151
Carroll.....	31	8	188	225	238	39	3,031	4,420
Cass.....	23	7	161	175	212	33	3,110	5,900
Clark.....	17	12	158	232	158	7	1,722	4,604
Olay.....	15	9	135	116	155	7	2,143	3,576
Clinton.....	36	49	225	158	319	14	5,158	5,379
Crawford.....	19	9	49	150	74	78	721	1,936
Daviess.....	22	23	159	226	173	32	3,019	4,607
Dearborn.....	19	8	158	216	185	8	1,240	4,731
Decatur.....	40	19	192	185	249	? 87	4,533	4,224
Dekalb.....	30	5	202	250	171	8	2,332	5,440
Delaware.....	28	27	77	208	274	32	4,419	3,614
Dubois.....	8	7	258	? 400	146	1	1,975	4,253
Elkhart.....	46	8	161	176	139	10	1,701	6,043
Fayette.....	22	3	189	164	287	5	5,470	2,776
Floyd.....	4	4	48	51	40	2	462	1,966
Fountain.....	46	26	205	247	294	? 73	4,084	4,478
Franklin.....	27	7	238	228	248	26	3,918	5,263
Fulton.....	26	5	122	96	115	28	1,901	3,667
Gibson.....	45	19	156	191	284	? 110	4,295	4,238
Grant.....	37	4	145	232	285	45	3,689	3,052
Greene.....	30	20	169	231	304	15	2,959	4,558
Hamilton.....	79	14	243	217	482	? 103	6,103	5,318
Hancock.....	18	5	150	120	246	65	4,121	3,376
Harrison.....	36	13	217	239	172	49	1,984	4,061
Hendricks.....	37	17	270	343	? 412	9	6,273	5,599
Henry.....	64	18	290	321	? 642	? 127	? 10,911	5,243
Howard.....	30	10	126	114	205	24	3,243	4,066
Huntington.....	44	7	223	192	302	17	3,801	5,816
Jackson.....	14	23	213	238	287	10	3,000	4,320
Jasper.....	26	2	109	49	126	29	1,523	3,544
Jay.....	45	2	174	222	239	16	3,241	4,284
Jefferson.....	20	10	135	151	107	19	1,302	3,488
Jennings.....	16	14	112	142	114	13	1,721	3,452
Johnson.....	42	19	215	159	? 410	31	5,713	4,706
Knox.....	18	13	161	172	267	27	3,767	4,993
Kosciusko.....	41	5	200	190	219	38	3,097	6,014
Lagrange.....	34	10	191	? 414	218	57	2,304	4,925
Lake.....	29	.....	310	77	218	8	2,498	7,701
Laporte.....	41	3	196	163	158	8	2,102	7,056
Lawrence.....	74	38	191	254	379	? 239	2,689	3,075
Madison.....	? 632	9	201	186	312	11	6,030	5,078
Marion.....	? 557	? 196	260	166	280	52	3,745	6,571
Marshall.....	32	2	163	139	180	15	2,354	5,628
Martin.....	13	11	96	202	142	2	1,176	2,857
Miami.....	41	5	207	191	288	35	3,911	5,230
Monroe.....	17	22	166	292	186	22	1,576	3,223
Montgomery.....	? 170	21	305	393	? 624	? 125	7,493	5,995
Morgan.....	19	12	178	175	245	42	4,627	3,342

TABLE No. XXVIII.—Continued.

Counties.	Stallions.	Jacks.	Bulls.	Rams.	Boars.	Jennets.	Sows.	Cows.
Newton.....	25	5	104	27	168	9	1,946	2,374
Noble.....	28	9	227	243	176	15	2,267	5,763
Ohio.....	2	1	34	32	23	4	348	1,138
Orange.....	18	22	118	368	142	23	1,695	3,047
Owen.....	24	20	248	397	235	9	2,509	4,570
Parke.....	50	27	195	250	276	? 83	3,671	3,996
Perry.....	21	7	61	186	74	17	1,012	2,076
Pike.....	16	15	123	244	166	16	2,480	2,911
Porter.....	23	18	157	276	127	14	1,631	5,765
Posey.....	68	9	133	90	83	7	3,417	3,034
Pulaski.....	21	1	105	64	64	10	846	4,200
Putnam.....	52	33	279	? 404	? 407	33	4,616	6,049
Randolph.....	67	19	265	255	? 446	? 95	6,495	5,958
Ripley.....	31	9	310	236	142	19	1,811	6,183
Rush.....	64	19	247	347	? 593	41	9,448	5,248
Scott.....	11	7	51	150	42	13	876	1,849
Shelby.....	37	14	195	136	? 452	13	4,419	4,731
Spencer.....	? 190	14	220	282	184	18	1,664	3,898
Starke.....	5	2	36	? 8	22	10	237	1,206
Stauben.....	32	.....	130	347	180	12	2,147	4,658
St. Joseph.....	29	4	169	152	139	15	2,198	6,206
Sullivan.....	21	23	73	172	274	43	3,484	4,307
Switzerland.....	25	8	90	135	92	32	874	1,969
Tippecanoe.....	35	5	208	127	279	20	4,374	4,677
Tipton.....	23	8	270	93	296	11	2,290	2,218
Union.....	20	2	79	145	211	1	3,784	2,007
Vanderburgh.....	15	3	120	74	36	5	830	4,920
Vermillion.....	32	8	102	68	149	14	2,240	2,185
Vigo.....	26	10	109	50	179	12	1,963	3,311
Wabash.....	54	11	255	247	392	? 67	4,542	5,974
Warren.....	36	17	135	129	268	? 79	3,635	3,118
Warrick.....	39	27	135	247	196	27	1,870	4,353
Washington.....	30	23	209	? 431	233	? 102	2,648	4,424
Wayne.....	47	3	245	208	? 453	? 82	? 15,423	6,090
Wells.....	40	11	175	151	274	13	2,525	4,974
White.....	33	5	162	115	203	19	2,304	3,212
Whitley.....	26	3	161	148	163	8	2,347	4,087
Total.....	4,532	1,235	15,637	17,017	21,117	3,099	293,703	394,832

NOTE.—The figures in these columns which appear to be extravagant, are due in most instances to the statement of a single township in the county. There is a noticable disproportion between the number of Jacks and Jennets. Bulls, Rams and Boars, owing to the trouble and inconvenience of driving them when wanted, are of necessity much more numerous than Stallions and Jacks. These totals, notwithstanding the apparent extravagance shown in some counties, are as a whole, rather under than over stated, as scarcely a county but had one to five townships which reported no Stallions, Jacks or Jennets.

MISCELLANEOUS STATISTICS.

TABLE No. XXIX.

Statement showing the Number of Real Estate Owners, from 1875 to 1880, inclusive, as reported by County Treasurers.

Counties.	1875.		1876.		1877.		1878.		1879.		1880.	
	Lands.	Lots.	Lands.	Lots.	Lands.	Lots.	Lands.	Lots.	Lands.	Lots.	Lands.	Lots.
Adams.....	2,250	515	2,375	535	2,450	575	2,445	618	2,421	634	.....	.....
Allen.....	5,072	4,869	5,054	4,776	5,030	4,850	5,009	4,852	4,992	4,886	.....	.....
Bartholomew.....	2,476	1,114	2,436	1,146	2,492	1,160	2,574	1,202	2,601	1,194	.....	.....
Benton.....	1,281	486	1,323	516	1,329	590	1,354	603	1,387	624	.....	.....
Blackford.....	1,121	370	1,161	446	1,202	486	1,245	474	1,251	482	.....	.....
Boone.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brown.....	1,890	61	1,924	57	1,985	59	2,075	59	2,010	52	.....	.....
Carroll.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cass.....	2,659	1,851	2,710	1,746	2,732	1,790	2,770	1,830	2,810	1,869	.....	.....
Clark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clay.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clinton.....	2,955	870	3,006	913	3,081	968	3,141	1,005	3,208	1,053	.....	.....
Crawford.....	1,425	125	1,510	136	1,600	148	1,725	166	1,900	187	.....	.....
Davies.....	2,586	783	2,640	826	2,701	764	2,972	930	.....	.....	.....	.....
Dearborn.....	2,720	1,891	2,858	1,935	2,870	1,909	2,849	1,951	2,951	2,009	2,990	2,081
Decatur.....	2,279	1,019	2,319	1,096	2,364	1,181	2,414	1,271	2,469	1,366	.....	.....
DeKalb.....	4,190	908	4,247	949	4,321	1,086	4,307	1,127	4,272	1,115	.....	.....
Delaware.....	2,692	1,038	2,719	1,117	2,880	1,196	2,861	1,206	2,881	1,185	3,040	1,039
Dubois.....	2,280	352	2,298	364	2,324	384	2,442	414	2,538	451	2,586	493
Elkhart.....	3,845	2,184	3,787	2,186	3,808	2,107	3,605	2,489	3,905	2,544	3,982	2,567
Fayette.....	1,189	216	1,230	529	1,299	624	1,437	576	1,408	491	1,376	565
Floyd.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fountain.....	2,368	845	2,392	801	2,467	980	2,502	1,009	2,558	1,130	2,393	1,607
Franklin.....	2,638	814	2,620	831	2,658	838	2,699	827	2,733	819	.....	.....
Fulton.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gibson.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grant.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greene.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hamilton.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hancock.....	2,003	923	2,129	1,041	2,226	1,107	2,377	1,230	2,752	1,427	.....	.....
Harrison.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hendricks.....	2,652	971	2,789	963	3,038	833	3,185	801	3,198	952	3,904	831
Henry.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Howard.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Huntington.....	3,030	982	3,076	989	3,084	986	3,120	987	3,143	1,016	.....	.....

Jackson	2,734	974	2,753	1,011	2,930	998	2,974	1,035	3,085	1,114	.....	.....
Jasper.....	2,440	890	2,884	877	2,433	848	2,448	855	2,591	371	.....	.....
Jay	2,875	880	2,890	885	2,900	890	2,915	890	2,996	900	.....	.....
Jefferson.....	2,468	1,956	2,452	1,942	2,468	1,942	2,479	1,920	2,546	1,909	.....	.....
Jennings .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Johnson.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Knox.....	2,606	1,033	2,620	1,060	2,652	1,087	2,747	1,091	2,751	1,097	.....	.....
Kosciusko.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lagrange.....	2,535	300	2,575	360	2,660	365	2,700	350	2,760	350	.....	.....
Lake	2,582	503	2,787	525	4,060	602	4,087	650	.....	.....	.....	.....
Laporte	3,375	2,400	3,435	2,551	3,465	2,626	3,680	2,740	3,740	2,880	.....	2,910
Lawrence .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Madison.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marion.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marshall.....	3,398	1,205	3,427	1,200	3,454	1,255	3,433	1,265	3,515	1,272	.....	1,285
Martin	1,817	409	1,747	383	1,794	444	1,857	275	1,891	325	.....	354
Miami.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monroe.....	2,332	629	2,340	648	2,376	650	2,364	662	2,380	671	.....	.....
Montgomery.....	3,116	1,508	3,170	1,500	3,155	1,510	3,160	1,515	3,175	1,520	.....	.....
Morgan	2,594	412	2,584	418	2,591	491	2,706	626	2,722	514	.....	.....
Newton	1,531	406	1,517	450	1,507	470	1,525	475	1,526	472	.....	.....
Noble .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ohio.....	666	260	655	255	687	257	669	260	680	260	.....	818
Orange	2,020	310	2,027	310	2,041	314	2,088	320	2,102	323	.....	.....
Owen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Parke.....	2,453	761	2,514	767	2,582	769	2,593	795	2,615	853	.....	892
Perry.....	2,299	8,514	2,346	2,942	2,894	3,106	2,349	3,053	2,436	2,921	.....	2,678
Pike.....	2,317	399	2,328	421	2,445	408	2,475	412	2,450	415	.....	.....
Porter.....	2,268	835	2,234	811	2,261	861	2,342	883	2,395	877	.....	.....
Posey.....	3,108	604	3,122	615	3,179	641	3,203	650	3,259	673	.....	.....
Pulaski.....	2,771	299	2,790	303	2,799	308	2,801	301	2,810	315	.....	.....
Putnam.....	3,368	954	2,451	1,096	3,529	1,041	3,625	1,071	3,750	1,121	.....	.....
Randolph	3,448	1,251	3,491	1,340	3,543	1,461	3,655	1,405	3,735	1,440	.....	.....
Ripley.....	3,604	597	3,614	604	3,687	618	3,717	647	3,796	694	.....	.....
Rush	2,211	563	2,249	559	2,381	598	2,407	603	2,483	674	.....	.....
Scott	1,351	236	1,374	239	1,396	241	1,440	234	1,515	250	.....	221
Shelby.....	950	890	1,225	1,030	1,315	1,000	1,490	1,050	3,856	912	.....	993
Spencer .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Starke.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Joseph.....	3,181	2,697	3,251	2,764	3,315	2,784	3,341	2,835	3,368	2,860	.....	.....
Stenben	2,529	645	2,599	712	2,536	721	2,534	737	2,598	744	.....	.....
Sullivan.....	3,033	741	3,166	795	3,133	804	3,195	763	3,183	744	.....	.....
Switzerland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tippecanoe.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tipton.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Union	984	282	989	290	1,004	312	1,024	323	1,039	832	.....	884
Vanderburgh.....	2,027	3,563	2,048	3,643	2,450	3,388	2,413	3,652	.....	.....	.....	.....
Vermillion	1,183	529	1,192	489	1,224	538	1,265	549	1,297	583	.....	.....
Vigo .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wabash	2,724	1,549	2,751	1,553	2,794	1,655	2,847	1,720	2,911	1,782	.....	.....

TABLE No. XXX.

Statement showing the Number of Acres, Value of Land and Personal Property, as per Valuation of 1880 for Taxation, the Acres and Value Per Capita, and the Value Per Capita of Personal Property of the Population of 1880, as shown by the United States Census and Auditor's Returns.

Counties.	Acres of Land.	Value of Land for Taxation, 1880.	Acres per capita of Population, 1880.	Value of Land per capita of 1880.	Value of Personal Property.	Value of Personal Property per capita, Pop. of 1880.	Population of 1880.
Adams.....	212,399	\$1,815,160	13.80	\$117 98	\$339,035	\$61 03	15,885
Allen.....	410,863	6,424,335	7.61	199 07	4,409,650	81 78	53,951
Bartholomew.....	250,453	5,185,250	11.00	223 26	2,629,414	116 44	22,777
Benton.....	257,916	3,310,253	9.31	298 03	1,100,974	99 12	11,107
Blackford.....	103,380	1,000,305	12.88	124 70	558,504	69 63	8,031
Boone.....	266,084	4,817,835	10.24	185 46	2,249,160	86 58	25,978
Brown.....	187,085	769,850	18.22	75 00	468,562	45 65	10,264
Carroll.....	232,574	3,682,944	12.67	200 73	1,777,649	96 89	18,347
Cass.....	269,582	3,286,438	10.93	123 00	2,454,342	91 89	26,709
Clark.....	237,492	3,200,570	8 29	111 75	2,062,581	72 02	28,638
Clay.....	275,272	2,644,247	10.65	102 33	1,273,120	49 58	25,839
Clinton.....	258,466	3,981,910	11.05	169 63	2,101,580	89 53	23,473
Crawford.....	197,378	559,893	15 97	45 32	364,086	29 47	12,856
Davies.....	270,733	2,663,266	12.56	123 57	1,432,544	66 47	21,562
Dearborn.....	193,733	2,795,925	7 64	104 88	2,523,540	96 11	26,656
Decatur.....	239,360	5,072,106	12.10	256 43	2,682,416	135 61	19,779
Dekalb.....	229,150	3,395,643	11.33	167 89	1,247,972	61 70	20,225
Delaware.....	250,104	4,574,217	10.90	199 51	2,151,392	5 83	22,927
Dubois.....	367,029	1,417,348	16.69	88 64	592,408	55 81	15,991
Elkhart.....	269,893	5,830,254	8.66	174 33	3,348,861	99 98	33,443
Fayette.....	125,797	2,939,912	11.04	258 02	2,097,800	184 11	11,394
Floyd.....	38,507	1,120,765	1.56	45 58	2,084,990	84 79	24,589
Fountain.....	250,028	4,577,750	12.36	226 80	1,772,295	87 61	20,228
Franklin.....	244,262	3,835,870	12.15	185 09	2,443,755	121 64	20,090
Fulton.....	230,994	2,645,550	16.15	182 19	1,069,615	75 49	14,301
Gibson.....	303,794	4,239,192	18.40	186 40	2,867,293	126 07	22,742
Grant.....	265,278	3,679,335	11.23	155 78	1,715,060	72 61	23,618
Greene.....	340,758	2,558,475	14.82	111 25	1,486,906	64 65	22,996
Hamilton.....	248,904	5,722,905	10.08	230 67	1,747,760	70 44	24,809
Hancock.....	190,347	4,410,580	11.11	257 50	1,853,250	108 23	17,123
Harrison.....	304,476	2,019,152	14.29	9 48	1,218,425	57 18	21,306
Hendricks.....	255,728	6,619,614	11.13	288 55	2,519,744	109 63	22,975
Henry.....	247,471	5,899,891	10.30	245 67	3,493,875	145 52	24,016
Howard.....	184,074	2,690,918	9.44	188 87	1,612,527	83 18	19,384
Huntington.....	239,556	3,509,761	10.94	16 96	1,678,918	76 99	21,305
Jackson.....	310,566	2,773,385	13.47	120 32	1,594,855	69 19	23,050
Jasper.....	353,159	1,312,355	37.31	138 65	797,861	84 29	9,465
Jay.....	242,774	2,644,969	12.59	137 18	1,356,444	70 30	19,280
Jefferson.....	228,883	2,120,621	8.67	80 58	2,792,630	105 83	26,377
Jennings.....	226,798	1,496,892	13.78	90 97	873,067	53 06	16,453
Johnson.....	196,082	5,619,685	10.13	287 69	2,515,145	128 73	19,537
Knox.....	320,274	3,827,015	12.67	145 40	3,007,910	11 69	26,320
Kosciusko.....	340,023	5,433,776	12.83	205 12	2,882,716	89 94	26,492
Lagrange.....	239,500	3,523,855	15.83	89 45	1,658,040	106 05	15,629
Lake.....	304,842	2,802,375	20.20	185 43	1,049,810	69 56	15,091
Laporte.....	367,341	5,500,160	11.85	177 72	3,089,773	99 74	30,976
Lawrence.....	288,294	2,781,816	15.46	14 91	1,709,074	91 65	18,646
Madison.....	281,428	5,917,833	10.22	21 61	1,882,060	68 36	27,531
Marion.....	228,014	11,054,661	2.21	107 55	18,997,850	136 19	102,780
Marshall.....	277,772	3,742,055	11.35	15 96	1,496,613	63 91	23,416

TABLE No. XXX.—Continued.

Counties.	Acres of Land.	Value of Land for Taxation, 1880.	Acres per capita of Population, 1880.	Value of Land per capita of 1880.	Value of Personal Property.	Value of Personal Property per capita, Pop. of 1880.	Population of 1880.
Martin	223,751	\$783,627	16.60	\$58 15	\$578,047	\$43 64	13,474
Miami	235,490	3,298,846	9.69	135 86	1,772,294	72 99	24,281
Monroe	255,867	2,410,837	16.11	151 87	1,678,334	105 72	15,874
Montgomery	317,089	7,412,680	11.60	27 13	3,548,495	129 91	27,814
Morgan	246,273	4,004,475	13.03	211 80	1,949,670	103 16	18,899
Newton	253,361	1,672,858	31.02	204 77	692,141	84 74	8,167
Noble	254,491	2,788,646	11.16	12 19	2,357,289	103 37	22,804
Ohio	64,395	786,895	11.57	141 45	551,115	99 06	5,563
Orange	237,988	1,620,500	16.56	112 82	1,148,453	79 95	14,363
Owen	240,888	2,461,814	15.15	154 82	1,519,935	195 58	15,901
Parke	261,314	5,644,427	14.45	290 15	2,304,366	11 84	19,460
Perry	235,615	693,860	14.45	40 82	777,110	45 72	16,997
Pike	203,251	1,510,766	12 40	92 20	976,069	59 57	16,384
Porter	262,069	3,037,505	15.19	176 35	1,348,715	78 27	17,229
Posey	252,760	3,780,886	12.12	181 27	1,778,045	85 25	20,857
Pulaski	269,568	1,510,753	26.35	153 86	567,267	57 58	9,851
Putnam	304,800	6,439,729	13.54	286 18	3,048,363	135 03	22,502
Randolph	284,176	5,638,260	10.75	218 27	3,025,890	114 45	26,437
Ripley	281,257	2,047,125	13.00	94 65	1,086,560	47 93	21,627
Rush	251,942	7,096,835	13.09	368 94	3,384,220	175 91	19,238
Scott	118,891	820,549	14.19	98 35	390,659	46 82	8,343
Shelby	255,901	7,647,290	10.13	102 39	2,586,150	102 39	25,256
Spencer	237,815	2,086,208	10.75	94 30	1,408,823	63 68	22,122
Starke	189,572	710,275	37.13	139 13	178,966	35 05	5,105
Steuben	285,628	2,021,305	19.50	188 03	864,465	58 97	14,644
St. Joseph	192,129	5,291,173	5.82	162 50	4,025,215	123 16	33,176
Sullivan	283,412	3,315,461	14 43	168 87	1,878,900	95 44	19,633
Switzerland	146,668	1,698,230	10.99	127 84	853,970	64 03	13,336
Tippecanoe	312,091	7,985,930	8 68	222 04	5,505,585	153 08	35,966
Tipton	166,400	1,683,688	11.55	116 90	663,913	46 10	14,402
Union	104,346	2,877,610	13.56	37 40	1,478,620	192 20	7,693
Vanderburg	145,312	3,786,640	3.44	89 75	6,185,710	146 84	42,192
Vermillion	153,233	2,804,165	12 74	283 19	1,453,020	120 83	12,026
Vigo	253,356	6,170,418	5.57	135 15	6,114,055	133 91	45,656
Wabash	255,774	3,883,750	10.12	15 36	2,707,535	107 15	25,268
Warren	229,537	3,618,100	19.99	315 19	1,349,061	117 52	11,497
Warrick	249,172	2,135,573	12.35	105 92	1,387,055	68 79	20,162
Washington	322,696	2,830,071	17.03	149 35	1,806,687	95 34	18,949
Wayne	252,136	8,372,690	6.53	216 83	6,585,862	196 45	33,614
Wells	233,714	3,163,075	12.62	171 51	1,455,405	78 91	18,442
White	318,342	2,702,028	23.07	195 91	1,099,892	79 72	13,797
Whitley	218,410	3,360,598	12.85	198 37	1,480,540	87 89	16,941
State at large	22,393,037	\$326,810,513	11.33	\$165 36	\$192,382,202	\$97 84	1,976,277

TABLE No. XXXI.

Statement showing the Taxable Valuation of Real Estate in 1875 and 1880, and of Personal Property in 1879 and 1880, and the Number of Taxable Polls (males between the ages of 21 and 50 years), and the Increase or Decrease of each.

Counties.	Real Estate Valuation.			Personal Valuation.			Taxable Polls.					
	Valuation in 1875.	Valuation in 1880.	Increase.	Decrease.	Valuation in 1879.	Valuation in 1880.	Increase.	Decrease.	Number in 1879.	Number in 1880.	Incr. '80	Deer. '80
Adams.....	\$4,014,040	\$2,486,060	.....	\$1,527,980	\$861,065	\$989,085	\$77,970	.....	2,357	2,249	.....	108
Allen.....	19,317,300	16,371,555	.....	2,945,745	4,237,585	4,409,650	162,065	.....	7,871	7,806	.....	65
Bartholomew.....	8,130,096	7,604,577	.....	525,519	2,959,817	2,629,414	.....	\$329,908	4,057	4,079	22	.....
Benton.....	4,961,018	4,140,327	.....	821,691	1,349,704	1,100,974	.....	248,730	1,986	1,984	18	.....
Blackford.....	2,060,876	1,499,915	.....	560,965	509,115	558,504	49,389	.....	1,345	1,380	35	.....
Boone.....	7,914,506	6,641,130	.....	1,273,375	2,409,645	2,244,160	.....	165,485	4,068	4,295	227	.....
Brown.....	1,119,667	1,068,517	.....	71,140	423,025	468,652	45,627	.....	1,513	1,607	94	.....
Carroll.....	6,256,448	5,508,699	.....	747,749	1,483,248	1,777,649	294,401	.....	8,050	3,013	.....	37
Cass.....	10,215,750	6,669,521	.....	3,546,229	2,656,790	2,454,242	.....	202,448	4,806	4,852	46	.....
Clark.....	6,714,377	4,098,670	.....	2,615,707	2,447,532	2,062,581	.....	384,951	8,303	3,459	156	.....
Clay.....	6,371,990	2,644,247	.....	3,727,683	1,083,377	1,273,120	189,743	.....	4,081	.....	.....	.....
Clinton.....	6,162,735	5,615,455	.....	547,280	2,215,065	2,101,580	.....	113,475	3,914	.....	.....	.....
Crawford.....	838,765	769,277	.....	64,488	318,170	364,086	45,916	.....	1,769	1,790	21	.....
Davies.....	4,844,599	3,904,685	.....	839,914	1,377,541	1,432,544	55,003	.....	3,304	3,450	146	.....
Dearborn.....	6,102,360	5,306,975	.....	795,385	2,350,050	2,523,540	173,490	.....	3,310	3,442	132	.....
Decatur.....	7,541,494	6,553,871	.....	988,123	2,578,840	2,662,416	103,566	.....	3,219	3,231	12	.....
Dekalb.....	5,900,389	4,511,962	.....	1,388,427	1,198,603	1,247,972	49,369	.....	3,854	3,459	105	.....
Delaware.....	7,780,491	6,500,480	.....	1,280,011	2,523,345	2,335,515	.....	187,830	3,495	3,641	146	.....
Dubois.....	2,231,515	1,987,596	.....	.....	886,655	872,408	.....	14,247	2,302	2,217	6	85
Elkhart.....	10,759,272	9,093,869	.....	1,865,403	3,068,435	3,445,079	386,644	.....	5,426	5,503	77	.....
Fayette.....	5,466,930	4,744,530	.....	722,400	2,134,535	2,097,800	.....	36,735	2,050	1,933	.....	117
Floyd.....	5,598,577	5,632,240	38,663	.....	3,061,898	3,390,150	338,252	.....	2,534	2,250	.....	284
Fountain.....	7,260,990	5,943,145	.....	1,317,845	1,635,913	1,772,295	136,382	.....	3,574	3,529	.....	45
Franklin.....	5,268,690	3,835,870	.....	1,433,820	2,607,900	2,434,755	.....	72,145	3,003	2,965	.....	38
Fulton.....	8,728,930	8,812,740	88,810	.....	959,770	1,069,615	109,845	.....	2,495	2,286	.....	209
Gibson.....	.....	4,239,192	.....	.....	.....	2,867,293	.....	.....	.....	3,679	.....	.....
Grant.....	7,925,540	5,778,490	.....	1,447,050	1,513,905	1,741,490	227,585	.....	3,941	3,954	13	.....
Greene.....	4,725,815	3,603,727	.....	1,127,088	1,333,805	1,486,906	253,101	.....	3,690	3,537	.....	153
Hamilton.....	9,186,535	7,200,640	.....	1,985,895	1,877,414	2,002,820	125,406	.....	4,213	4,240	27	6
Hancock.....	6,339,645	5,625,225	.....	714,420	1,763,840	1,853,350	89,410	.....	2,893	2,904	11	.....

TABLE No. XXXI.—Continued.

Counties.	Real Estate Valuation.			Personal Valuation.			Taxable Polls.			
	Valuation in 1876.	Valuation in 1880.	Increase.	Decrease.	Valuation in 1879.	Valuation in 1880.	Increase.	Decrease.	Number in 1879.	Number in 1880.
Harrison.....	\$3,055,985	\$2,713,035	.....	\$342,950	\$1,282,265	\$1,218,425	.....	\$63,840	3,121	3,042
Hendricks.....	10,263,662	7,995,862	.....	2,267,800	2,339,914	2,519,744	\$179,830	.....	3,763	3,743
Henry.....	8,879,070	7,495,200	.....	1,383,870	2,724,740	2,025,160	.....	699,580	3,077	2,840
Howard.....	5,147,690	4,414,198	.....	733,492	1,613,110	1,612,527	.....	583	3,400	3,492
Huntington..	5,486,590	5,209,525	.....	277,065	1,559,490	1,678,918	119,428	.....	3,676	3,707
Jackson.....	6,471,165	4,111,070	.....	1,360,195	1,952,600	1,594,855	.....	357,745	3,658	3,695
Jasper.....	2,127,594	1,293,594	.....	834,000	755,600	798,500	42,900	.....	1,585	1,558
Jay.....	4,327,270	4,356,405	\$29,135	.....	1,205,335	1,356,444	151,109	.....	3,077	3,121
Jefferson.....	5,227,610	4,449,829	.....	777,781	3,107,155	2,792,630	.....	304,525	3,542	3,400
Jennings.....	2,339,861	2,079,184	.....	260,677	1,229,084	873,067	.....	356,027	2,410	2,397
Johnson.....	8,240,480	7,849,865	.....	390,615	2,504,895	2,515,145	10,750	.....	3,227	3,134
Knox.....	7,548,360	7,091,345	.....	457,015	2,944,015	3,007,910	63,895	.....	4,037	4,223
Kosciusko.....	7,217,565	7,167,711	.....	49,854	1,953,496	2,382,716	429,220	.....	4,284	4,456
Lagrange.....	6,635,845	4,686,645	.....	949,200	1,628,085	1,658,040	29,955	.....	2,582	2,552
Lake.....	4,958,800	3,781,510	.....	1,177,290	999,755	1,055,050	55,295	.....	2,143	2,118
Laporte.....	9,185,565	9,098,240	.....	87,325	2,682,590	3,089,775	407,185	.....	4,575	4,653
Lawrence.....	3,689,182	3,328,522	.....	260,660	1,746,821	1,709,074	.....	37,747	3,190	2,341
Madison.....	7,047,875	6,917,833	.....	1,129,542	.....	1,882,060	.....	.....	.....	4,696
Marion.....	79,301,255	53,211,224	.....	26,090,031	13,504,830	14,048,750	543,920	.....	18,036	17,508
Marshall.....	5,372,750	4,609,090	.....	763,660	2,209,267	1,496,613	.....	712,654	3,781	3,718
Martin.....	1,620,166	1,311,405	.....	308,761	526,606	578,047	61,441	.....	2,067	2,028
Miami.....	4,753,025	3,794,420	.....	958,605	1,767,610	1,772,294	14,684	.....	3,982	3,968
Monroe.....	4,414,550	3,460,631	.....	953,919	1,644,050	1,678,324	65,716	.....	2,477	2,486
Montgomery.....	11,797,830	10,206,055	.....	1,591,775	3,005,485	3,543,495	643,010	.....	4,548	4,558
Morgan.....	6,845,090	5,256,340	.....	1,588,750	1,854,745	1,949,670	94,925	.....	3,148	3,046
Newton.....	3,715,321	2,428,626	.....	1,281,695	740,843	692,141	.....	48,401	1,409	1,315
Noble.....	5,766,777	6,057,933	.....	708,844	3,110,925	2,367,289	.....	753,636	3,604	3,691
Ohio.....	1,280,605	1,151,555	.....	129,050	500,590	551,115	60,525	.....	2,852	2,795
Orange.....	2,456,381	2,288,682	.....	167,699	1,048,415	1,148,433	100,028	.....	2,221	2,260
Owen.....	4,232,265	3,610,895	.....	1,770,451	1,412,685	1,519,295	106,610	.....	2,539	2,475
Parks.....	5,014,525	6,884,101	.....	1,130,424	2,041,040	2,304,365	263,326	.....	3,617	3,663
Perry.....	1,896,775	1,453,440	.....	442,335	767,145	774,415	7,270	.....	2,292	2,311
Pike.....	2,396,691	2,196,783	.....	199,908	778,882	976,069	197,187	.....	2,581	2,716
Porter.....	4,237,240	3,780,235	.....	456,985	1,109,090	1,348,715	239,625	.....	2,306	2,263
Posey.....	5,814,570	5,238,271	.....	576,299	1,612,150	1,778,045	165,895	.....	3,027	3,184
Pulaski.....	2,040,515	1,810,459	.....	230,056	563,875	567,267	3,392	.....	1,536	1,276
Putnam.....	10,802,970	8,788,550	.....	214,420	2,738,205	3,048,363	310,158	.....	3,555	3,664
Randolph.....	8,660,740	7,672,780	.....	996,960	2,935,345	3,025,890	90,545	.....	4,514	4,461
Ripley.....	2,790,689	2,419,417	.....	380,273	992,758	1,000,826	8,068	.....	2,841	2,944

Rush	9,656,425	8,568,610	.....	1,087,815	8,471,407	3,894,220	.....	87,187	3,278	3,458	180	.....
Scott	1,272,463	1,066,736	.....	206,707	388,761	890,659	.....	.....	1,332	1,283	.....	49
Shelby	11,332,160	9,485,210	.....	1,846,950	2,563,430	2,586,160	.....	.....	4,206	4,069	.....	137
Spencer	4,154,580	2,086,208	.....	2,068,372	1,361,645	1,408,823	.....	.....	3,291	.....	.....	.....
Starke	814,243	710,275	.....	103,968	594,953	178,966	.....	345,987	777	811	34	.....
St. Joseph	10,267,030	10,784,705	477,675	.....	3,777,930	4,085,215	.....	.....	5,382	5,119	.....	263
Steuben	4,297,780	2,875,680	.....	1,422,100	893,300	884,465	.....	28,835	2,546	2,586	40	.....
Sullivan	4,775,290	4,537,940	.....	237,350	1,693,990	1,873,900	.....	.....	3,364	3,625	261	.....
Switzerland	2,927,175	2,300,775	.....	626,400	810,360	853,970	.....	.....	2,049	2,026	.....	23
Tippecanoe	15,687,855	14,331,860	.....	744,005	6,072,555	6,406,185	.....	.....	4,845	5,498	653	.....
Tipton	3,141,304	2,235,127	.....	906,137	656,271	663,913	.....	.....	2,212	2,227	15	.....
Union	3,506,705	3,546,790	40,085	.....	1,693,625	1,478,620	.....	115,005	1,278	1,200	.....	18
Vanderburgh	16,196,685	14,745,395	.....	1,451,790	6,183,735	6,185,710	.....	.....	5,637	5,743	106	.....
Vermillion	3,906,975	3,600,670	.....	306,305	1,606,555	1,453,020	.....	253,535	1,954	2,057	103	.....
Vigo	17,692,670	16,622,710	.....	1,009,960	6,433,330	6,114,055	.....	319,275	6,473	6,530	57	.....
Warbarh	7,534,340	7,371,680	.....	162,660	2,978,375	2,707,535	.....	270,840	4,306	4,367	41	.....
Warren	6,074,285	4,206,670	.....	1,867,615	1,346,140	1,349,061	.....	.....	1,943	2,017	114	.....
Warrick	3,141,780	2,259,388	.....	882,892	1,329,155	1,387,055	.....	.....	3,177	3,329	152	.....
Washington	4,015,535	3,730,160	.....	285,375	1,685,710	1,806,687	.....	.....	2,799	2,815	16	.....
Wayne	16,174,490	15,415,480	.....	759,010	7,848,128	7,514,590	.....	323,538	5,764	6,715	.....	49
Wells	4,360,925	4,301,975	.....	68,950	1,366,200	1,455,405	.....	.....	3,112	3,215	103	.....
White	5,232,937	8,613,289	.....	1,619,648	1,161,033	1,099,892	.....	61,141	2,444	2,414	.....	30
Whitley	3,809,245	4,004,381	195,136	.....	1,897,035	1,480,540	.....	416,495	2,808	2,736	.....	72

NOTE.—There are errors in this table as to valuations. Some were taken from the report of the State Board of Equalization, where the auditors were slow in making reports, and do not agree with the returns from auditors which came in afterward. The several reports which the Bureau have consulted as to the number of acres of land in the State vary over four millions of acres. There was evidently a misunderstanding of the questions on the part of some, but it is believed these are not numerous, and that the table, in a general way, will still answer the purpose intended—that of comparing the counties.

TABLE No. XXXII.

Table showing the Number, Cost, Length, etc., of Turnpikes, Gravel and other Toll Roads, together with the Receipts and Expenditures for the past Five Years, as reported by their Officers.

NOTE.—The main purpose of this table is to enlighten the people generally concerning the number, extent, cost, manner of construction, and the character of investments in turnpikes and other toll roads. One important item of expense, to-wit, litigation, was overlooked in the inquiry. The location and name of the roads are purposely withheld, so as to put them on the same terms as dealers and manufacturers as to privacy.

Number of Road.	When Built.	Length in Miles or Parts of Miles.	Width of Paving Material in Feet.	Thickness of Paving Material in Inches.	Kind of Paving Material.	Original Cost of Construction.	Cost of Betterments previous to 1875.	Amount of Stock Outstanding.	Receipts and Expenditures for past Five Years.							
									Receipts from Tolls.	Receipts from Other Sources.	Amount Paid Officers.	Amount Paid Gate Keepers.	Cost of Repairs.	(Cost of Betterments.	Other Expenses.	Amount of Dividends Paid.
1	1854-5	9	16	16	Gravel.....	\$17,370	.....	\$17,370	\$11,990	.....	.....	\$1,800	\$8,680	.....	.....	\$9,327
2	1866-7	5¾	10	11½	Gravel.....	6,500	.....	6,000	2,701	.....	.....	1,000	1,334	.....	\$80	.....
3	1871	9	14	9	Gravel.....	8,000	.....	8,500	1,625	\$1,625	.....	600	652	.....	.....	547
4	1867	8¼	16	12	Gravel.....	8,500	.....	.....	4,589	.....	.....	1,157	2,019	.....	.....	1,870
5	1869	7½	16	12	Gravel.....	14,000	.....	.....	3,600	70	.....	1,000	600	90	75	.....
6	1869	10	12	12	Gravel.....	21,367	.....	.....	4,300	1,000	350	1,350	8,000	.....	1,977	.....
7	1867	4	8	12	Gravel.....	7,400	.....	7,400	5,522	.....	12	264	2,114	.....	.....	3,665
8	1867-71	5½	10	14	Gravel.....	12,560	.....	.....	4,360	2,714	450	1,224	2,192	2,015	1,404	.....
9	1877	2½	10	12	Gravel.....	5,300	.....	5,000	300	.....	60	100	270	.....	6	.....
10	1871	7½	12	9	Gravel.....	17,000	.....	3,000	1,835	.....	82	509	508	37	137	.....
11	1862-5	14	20	12	Gravel.....	.....	.....	46,325	21,254	719	1,050	3,578	9,788	701	1,832	3,706
12	1867	4¾	8	12	Gravel.....	7,450	.....	.....	1,238	.....	.....	156	.....	.....	20	.....
13	1877-78	5¼	16	14	Stone and gravel.....	12,000	.....	.....	2,200	.....	23	168	485	2,270	665	.....
14	1876	6½	16	12	Gravel.....	7,000	.....	.....	4,524	.....	.....	1,071	439	2,200	666	.....
15	1867	4½	9	12	Gravel.....	5,600	\$1,600	11,000	2,948	663	.....	1,471	807	550	320	.....
16	1872	10	20	10	Gravel.....	15,000	.....	.....	2,787	64	.....	480	800	.....	4,417	.....
17	1870-73	7	12	8	Gravel.....	18,000	800	.....	14,237	.....	1,710	2,807	2,600	1,760	4,200	856
18	1858-70	28	16	7	Gravel.....	28,000	.....	28,000	17,404	79	689	2,959	6,197	163	260	7,636
19	1876-78	8 1-5	13	12	Gravel.....	8,519	.....	.....	148	.....	.....	19	425	.....	.....	.....

TABLE No. XXXII.—Continued.

Number of Road.	When Built.	Length in Miles or Parts of Miles.	Width of Paving Material in Feet.	Thickness of Paving Material in Inches.	Kind of Paving Material.	Original Cost of Construction.	Cost of Betterments previous to 1875.	Amount of Stock Outstanding.	Receipts and Expenditures for past Five Years.							Amount of Dividends Paid.
									Receipts from Tolls.	Receipts from Other Sources.	Amount Paid Officers.	Amount Paid Gate Keepers.	Cost of Repairs.	Cost of Betterments.	Other Expenses.	
70	1877	3½	10	12	Gravel	\$4,400	\$10	.....	\$300	.....	.....	52	.....	\$175	.....	.....
71	1858	7	10	9	Gravel	7,225	.....	\$7,225	1,726	.....	\$102	\$380	\$1,206	.....	\$137	.....
72	1879	4	9	12	Broken stone and gravel.....	7,234	.....	6,100	200	\$4,708	171	16	151	.....	.....	.....
73	1875	9¾	12	11	Gravel	24,000	.....	.....	.....	.....	353	900	2,018	.....	12,877	.....
74	1879	6¾	10	12	Gravel	9,000	.....	.....	.....	.....	.....	180	200	.....	.....	.....
75	1851-52	16	10	.....	Gravel	23,200	.....	.....	15,623	1,975	3,060	3,562	12,870	3,529	3,990	.....
76	1866	15½	9	12	Gravel	28,250	.....	28,250	17,856	.....	532	3,279	7,019	.....	525	\$6,073
77	1864	4¾	10	12	Gravel	7,631	.....	.....	4,046	.....	82	1,114	1,857	.....	112	.....
78	1870	3	14	10	Gravel	2,848	100	.....	1,306	.....	.....	625	797	.....	.....	.....
79	1863-64	18	20	12	Gravel	42,000	.....	.....	24,632	30	3,275	5,004	14,992	.....	722	.....
80	1869	4½	18	12	Gravel	9,000	.....	.....	2,097	102	.....	600	.....	.....	.....	.....
81	1858-60	13	16	21	Gravel	12,750	.....	.....	9,522	.....	85	1,758	2,618	.....	318	4,001
82	1852	10¾	14	12	Gravel	8,625	650	.....	5,936	.....	303	1,261	2,983	225	.....	1,250
83	1876-78	8	10	11	Gravel	12,800	.....	200	2,002	.....	363	205	1,249	.....	.....	.....
84	1859	2½	12	12	Gravel	3,000	.....	2,500	1,750	.....	100	250	805	.....	100	617
85	1869-71	5½	12	8	Gravel	6,000	.....	.....	1,433	.....	78	300	764	.....	160	545
86	1867	9½	12	8	Gravel	11,132	4,000	.....	4,319	.....	206	1,046	2,700	.....	20	.....
87	1849	7¾	16	16	Gravel	5,000	.....	.....	711	.....	.....	250	690	.....	.....	.....
88	1868	5	10	10	Gravel	9,060	.....	.....	1,984	.....	71	720	1,029	.....	.....	.....
89	1870-71	9 1-20	12	12	Gravel	23,930	.....	18,772	5,086	29	70	1,075	675	.....	.....	.....
90	1869	5	12	12	Gravel	13,658	.....	.....	1,882	200	100	300	757	446	922	203
91	1848	8	16	13	Gravel	12,500	2,000	12,000	6,382	805	375	1,370	2,439	200	.....	3,000
92	1867	10 11-16	10	12	Gravel	18,893	.....	.....	4,522	50	244	779	3,214	.....	920	.....
93	1868-69	5	14	12	Gravel	10,858	.....	10,858	4,239	.....	220	432	1,808	.....	109	2,172
94	1876	6	10	18	Gravel	9,637	.....	.....	562	.....	.....	114	323	.....	.....	.....
95	1870-72	5½	10	8	Gravel	10,128	.....	.....	4,966	56	195	1,116	1,427	.....	.....	1,730
96	1878	5¾	12	16	Gravel	6,500	.....	.....	400	.....	.....	71	.....	.....	.....	.....
97	1877-78	5¾	12	12	Stone and gravel	9,131	.....	868	2,900	.....	.....	690	878	200	89	.....
98	1879	7	12	10	Broken stone and gravel.....	15,000	.....	500	1,000	.....	100	225	100	300	.....	.....
99	1860	15¾	8	3	Plank.....	55,613	.....	35,000	\$10,460	.....	480	1,809	4,847	.....	483	2,686
100	1867	7	8	6	Gravel and stone	11,000	.....	.....	525	.....	.....	275	450	.....	.....	.....
101	1869-70	9½	12	12	Gravel	18,200	.....	18,200	14,750	.....	414	1,800	5,635	.....	400	4,186
102	1878	8	16	12	Gravel	16,000	.....	.....	1,091	.....	.....	300	1,153	.....	.....	.....

103	1872-75	3	6	Gravel	7,997	1,300	7,997	8,808	40	1,008	375	.....	2,515
104	1869-70	6½	12	Gravel	10,000	2,000	10,000	3,950	45	.....	500	.....	.....
105	1863	8	12	Gravel	13,000	.....	.....	6,328	300	2,092	5,597	587	714
106	1870	6½	9	Gravel	11,212	.....	.....	1,002	159	720	500	27	.....
107	1867	5½	12	Gravel	9,000	.....	.....	8,329	174	386	2,476	.....	.....
108	1863	2½	10	Gravel	4,400	.....	4,400	872	.....	266	313	.....	374
109	1871	9 1-16	8	Gravel	16,150	1,100	16,275	1,700	116	588	931	448	.....
110	1866	3¾	12	Gravel	3,000	90	.....	875	.....	300	180	25	360
111	.....	5	14	Rock and gravel	11,000	.....	11,600	8,500	2,080	.....	5,300	.....	4,496
112	1864	6	16	Gravel	5,225	.....	.....	2,999	.....	720	765	.....	.....
113	1876	6 1-10	10	Gravel	2,250	.....	.....	1,285	.....	300	780	172	1,254
114	1865	6	10	Gravel	3,375	.....	250	2,733	.....	762	825	20	503
115	1866	2	12	Gravel	14,322	.....	.....	3,600	60	773	1,025	95	1,080
116	1861	2¾	13	Gravel	21,765	.....	.....	5,718	172	1,462	4,158	147	1,647
117	1871	6½	12	Gravel	16,031	5,110	14,450	2,445	360	350	1,571	671	2,344
118	1869-71	7.92	8	Gravel	7,000	.....	300	9,891	187	973	1,585	112	1,349
119	1875-76	9 7-16	.....	Gravel	15,000	500	15,000	6,485	495	700	.....	.....	8,092
120	1864-65	6¼	10	Gravel	40,000	2,500	.....	12,000	182	900	3,338	.....	3,000
121	1873-74	5½	12	Gravel	11,133	.....	.....	5,286	322	2,400	3,850	140	.....
122	1869	12¾	12	Gravel	5,700	.....	.....	5,458	60	934	1,005	2,499	1,836
123	1862-65	5½	16	Gravel	51,000	.....	.....	53,000	312	.....	171	.....	.....
124	1869	3	9	Rock and Gravel	7,782	.....	.....	1,301	.....	.....	29,000	.....	21,420
125	1863	41	14	Limestone	34,850	.....	.....	6,200	.....	396	539	80	.....
126	1871	3¾	18	Gravel	20,000	.....	8,842	1,301	.....	1,250	2,500	.....	2,700
127	1873-76	10½	11	Gravel	27,195	.....	5,700	12,075	270	1,556	6,421	5,845	.....
128	1858-59	5¼	12	Gravel	4,134	.....	17,828	10,401	.....	2,400	2,567	.....	4,545
129	1867	10	12	Gravel	16,285	2,096	300	523	.....	286	287	.....	.....
130	1870	1¾	10	Gravel	6,586	.....	16,205	6,796	220	1,103	4,675	1,002	324
131	1873-74	15	12	Gravel	8,000	2,000	5,000	8,704	845	1,950	2,032	226	3,782
132	1870-71	6	16	Rock	13,000	.....	.....	1,909	.....	510	1,990	.....	.....
133	1860-61	4½	14	Gravel	12,000	.....	.....	1,815	.....	755	1,440	.....	.....
134	1875	6	12	Gravel	15,050	.....	.....	144	.....	144	200	.....	.....
135	1871-73	4	9	Limestone	16,000	.....	6,013	4,650	.....	1,472	2,700	.....	450
136	1861	10½	12	Gravel	25,000	.....	15,050	5,478	.....	1,116	3,165	395	376
137	1874	8	11	Gravel	2,700	.....	20,000	4,700	116	900	3,000	.....	.....
138	1870	5	15	Gravel	2,700	.....	20,000	10,250	274	1,599	2,722	452	5,800
139	1863	4	12	Gravel	17,364	.....	20,000	2,700	40	400	1,200	120	.....
140	1873	5½	12	Gravel	7,250	4,500	15,500	7,174	511	1,200	2,444	2,305	.....
141	1869-70	7¼	11	Gravel	10,000	.....	5,900	4,150	.....	1,440	1,415	35	.....
142	1863	6½	12	Gravel	33,000	2,000	10,000	3,335	28	373	2,159	135	1,073
143	1868-69	11	15	Gravel	11,000	.....	25,000	10,800	434	2,612	300	455	2,600
144	1870-71	9	14	Gravel	5,300	.....	12,000	16,254	569	3,056	1,366	743	8,200
145	1863	4	16	Gravel	6,500	.....	5,885	833	.....	588	376	138	.....
146	1871	4¾	10	Gravel	27,490	16,000	.....	927	10	76	200	.....	887
147	1872	11	14	Gravel	10,000	300	6,000	16,093	549	1,342	3,577	.....	8,521
148	1848	7¼	18	Gravel	5,000	.....	6,000	3,625	67	1,085	2,814	.....	.....
149	1855-57	4	16	Gravel	25,500	.....	25,500	5,761	45	982	1,863	219	2,260
150	1869	22	14	Gravel	.....	.....	.....	13,976	650	3,640	5,854	.....	4,160

TABLE No. XXXII.—Continued.

Number of Road.	When Built.	Length in Miles or Parts of Miles.	Width of Paving Mate- rial in Feet.	Thickness of Paving Material in Inches.	Kind of Paving Material.	Original Cost of Con- struction.	Cost of Betterments Previous to 1875.	Amount of Stock Out- standing.	Receipts and Expenditures for past Five Years.								
									Receipts from Tolls.	Receipts from Other Sources.	Amount Paid Officers.	Amount Paid Gate Keepers.	Cost of Repairs.	Cost of Better- ments.	Other Expenses.	Amount of Divi- dends Paid.	
1153	1849	10	18	12	Gravel	\$19,170	.....	\$19,170	\$20,138	.....	\$375	\$2,880	\$10,500	.....	.....	.....	\$9,201
1154	1871	6½	9	12	Gravel	7,000	.....	.....	2,521	.....	42	828	609	.....	.....	\$30	1,011
1155	1874	2¼	10	12	Gravel	4,000	.....	2,500	558	.....	40	240	200	.....	.....	.....	.....
1156	1874	3½	12	12	Gravel	3,186	.....	34	626	.....	.....	166	41	.....	.....	.....	.....
1157	1865-66	8½	10	15	Broken stone and gravel	17,000	.....	10,000	7,300	\$75	330	520	1,500	\$1,500	.....	.....	.....
1158	1865	4	10	18	Gravel	8,400	.....	8,450	2,107	.....	.....	320	1,693	.....	.....	.....	.....
1159	1874-76	14	12	9	Gravel	14,425	.....	.....	6,010	7,666	128	760	1,289	.....	.....	31	.....
1160	1863	7½	15	12	Gravel	8,500	.....	8,225	8,257	519	1,360	1,830	5,660	.....	.....	749	658
1161	1868-69	8½	16	8	Gravel	20,000	\$100	.....	8,823	.....	392	1,540	2,850	200	480	.....	1,920
1162	1862-63	4½	14	14	Gravel	6,630	1,000	4,750	6,627	.....	100	971	1,815	1,000	97	.....	2,231
1163	1864-66	5	14	10	Gravel	6,000	.....	.....	2,475	.....	29	405	953	.....	.....	.....	1,515
1164	1862-65	9½	16	12	Gravel	9,812	.....	9,812	3,804	.....	74	574	1,137	.....	132	.....	2,270
1165	1862	11½	14	11	Gravel	20,355	1,700	.....	7,564	.....	45	1,885	2,776	.....	.....	.....	1,254
1166	1870	7½	16	9	Gravel	15,000	.....	.....	7,500	.....	150	1,816	1,550	.....	.....	.....	1,156
1167	1866-67	5½	12	12	Gravel	7,290	.....	7,290	3,887	621	180	504	1,847	.....	669	.....	1,234
1168	1860	6½	15	13	Gravel	14,600	2,500	14,600	15,150	525	625	1,400	4,508	3,100	.....	.....	4,296
1169	1877-79	4¼	10	12	Gravel	5,185	.....	5,145	279	.....	.....	73	30	.....	24	.....	.....
1170	1867	3	12	12	Gravel	5,000	.....	.....	625	.....	.....	236	376	.....	.....	.....	.....
1171	1865	3	12	12	Gravel	3,600	100	.....	689	25	50	210	402	300	253	.....	.....
1172	1867	3	16	8	Gravel	3,512	.....	3,000	1,081	1,000	.....	269	280	.....	.....	.....	.....
1173	1863	4	12	12	Gravel	6,600	800	5,600	1,934	.....	95	487	899	.....	122	.....	560
1174	1866-67	3	8	10	Gravel	3,500	.....	3,200	793	51	.....	290	562	.....	.....	.....	.....
1176	1867	2 2-5	20	18	Gravel	2,400	2,100	2,400	3,033	.....	251	810	1,805	200	.....	.....	720
1176	1878-79	4 4-5	9	23	Gravel	3,850	.....	3,850	.....	.....	.....	.....	.....	.....	.....	.....	.....
1177	1870	7 4-5	12	9	Gravel	13,910	.....	.....	2,762	288	408	912	2,217	.....	726	.....	3,017
1178	1870-79	9 2-5	12	12	Gravel	19,000	.....	2,000	2,022	.....	.....	431	3,297	.....	673	.....	.....
1179	1869	7½	12	12	Gravel	20,231	.....	8,925	1,459	.....	116	625	408	207	7	.....	178
1180	1866	10	16	7	Limestone	11	.....	.....	2,240	.....	.....	668	2,000	.....	.....	.....	.....
1181	1874	6½	10	8	Stone	10,000	.....	8,650	1,439	50	140	823	613	284	43	.....	.....
1182	1850-60	13	16	9	Broken limestone	28,700	.....	32,550	11,923	.....	287	1,682	6,893	.....	441	.....	4,217
1183	1866	3¼	16	9	Gravel	6,000	.....	4,125	6,310	.....	225	1,000	1,917	.....	19	.....	.....
1184	1866	8	16	12	Crushed stone and gravel	10,000	.....	14,000	13,838	.....	.....	2,200	5,051	.....	.....	.....	6,076
1185	1867	7¼	14	12	Gravel	12,000	.....	.....	4,019	.....	235	1,060	2,939	.....	.....	.....	.....

186	1863	53%	15	16	Gravel.....	12,000	.....	4,600	2,624	.....	100	628	786	.....	.....	1,228
187	1863	63%	15	12	Gravel.....	12,000	.....	6,400	.....	.....	108	720	1,637	.....	.....	2,606
188	1852	21 7/8	28	16	Gravel.....	39,000	.....	.....	26,647	.....	1,375	3,569	12,138	.....	1,787	14,040
189	1875-77	5 1/2	18	12	Gravel.....	9,000	.....	8,000	3,600	.....	433	400	750	.....	.....	.....
190	1871	4 1/2	12	10	Gravel.....	5,72	.....	.....	306	.....	.....	102	10	.....	.....	.....
191	1860	12 1/2	20	10	Gravel.....	18,700	.....	28,750	6,342	.....	315	720	2,700	.....	.....	3,477
192	1861	7	12	12	Gravel.....	8,000	.....	.....	5,358	.....	630	1,175	1,637	.....	.....	1,890
193	1870-71	11	12	15	Broken stone and gravel.....	23,000	.....	20,000	2,789	.....	479	1,288	948	.....	6,625	.....
194	1854	9	15	7	Gravel.....	11,800	.....	10,925	3,727	.....	.....	960	959	.....	8	1,802
195	1872	3 1/2	16	16	Gravel.....	5,526	.....	5,125	3,418	.....	.....	344	2,818	.....	.....	.....
196	1867-70	9	15	12	Gravel.....	18,000	.....	265	6,591	.....	345	1,440	5,634	.....	.....	.....
197	+	6	12	18	Gravel.....	9,000	.....	.....	2,335	.....	908	513	2,001	.....	.....	.....
198	1858-59	3	12	12	Gravel.....	.....	.....	.....	1,290	.....	98	300	387	.....	.....	.....
199	1867-68	10	20	12	Gravel.....	22,000	.....	22,800	4,300	.....	559	928	2,876	.....	.....	.....
200	1863-70	4	12	12	Gravel.....	5,000	.....	4,800	1,750	.....	.....	720	806	.....	.....	.....
201	Records	destroyed by fire.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
202	1868	6	14	12	Gravel.....	6,800	2,200	6,800	7,068	.....	375	1,732	2,000	.....	.....	1,080
203	1872	4 1/2	10	12	Gravel.....	6,625	.....	.....	569	.....	60	504	572	.....	.....	.....
204	1870	7 7/8	16	12	Gravel.....	21,000	.....	.....	1,824	.....	89	498	504	.....	97	299
205	1870	8	9	10	Gravel and stone.....	15,000	.....	800	2,250	.....	.....	780	950	.....	350	.....
206	1867	10 3-5	15	12	Gravel.....	22,950	.....	19,957	5,164	.....	127	538	2,622	.....	4	3,293
207	1879	4	12	18	Gravel.....	12,000	Just completed.	.....	.....	.....	.....	.....	.....	.....	.....	.....
208	1869-70	5 1/2	8	9	Gravel.....	9,450	.....	347	100	.....	.....	50	286	.....	18	.....
209	1871-72	12	12	12	Gravel.....	30,000	750	25,637	11,396	.....	1,104	1,618	5,371	.....	2,639	2,878
210	1876-79	5 3/4	8	12	Gravel.....	5,800	.....	.....	554	.....	.....	280	75	.....	12	.....
211	1864	3 1/2	12	10	Gravel.....	9,675	.....	6,175	6,096	.....	.....	1,000	2,429	.....	185	2,778
212	1869	7 1/8	16	12	Gravel.....	9,911	.....	19,895	986	.....	76	430	176	.....	292	.....
213	1862	8	10	8	Gravel.....	8,000	1,500	32,000	10,124	.....	865	1,104	4,484	.....	1,123	2,386
214	1864-66	9	14	12	Gravel.....	12,500	.....	10,500	7,267	.....	250	1,500	2,444	.....	164	2,835
215	1856-58	7	12	12	Gravel.....	17,000	.....	9,700	1,215	.....	.....	405	1,537	.....	.....	.....
216	1864-65	4 16-16	10	12	Gravel.....	10,000	.....	6,325	7,801	.....	405	973	4,426	.....	106	2,240
217	1856	4	16	10	Gravel.....	3,735	.....	.....	791	.....	120	876	679	.....	.....	298
218	1868	8	12	12	Gravel.....	12,000	.....	.....	2,682	.....	.....	699	1,324	.....	130	.....
219	1867-72	12	12	5	Stone and gravel.....	40,000	.....	43,175	4,672	.....	30	1,495	2,979	.....	3,035	.....
220	1867-68	8 5/8	10	10	Gravel.....	7,100	.....	6,850	7,158	.....	.....	2,216	6,121	.....	370	600
221	1873	8	12	12	Gravel.....	20,000	.....	20,000	3,860	.....	145	1,200	2,283	.....	220	.....
222	1851-54	20	9	8	Stone and gravel.....	75,000	.....	61,500	.....	.....	.....	.....	.....	.....	.....	.....
223	1871	4 3/4	9	8	Gravel.....	6,750	.....	1,450	1,146	.....	61	940	107	.....	38	.....
224	1861	11	12	12	Gravel.....	14,000	.....	14,000	20,962	.....	.....	3,112	8,440	.....	.....	9,800
225	1866	16 1/2	9	10	Gravel.....	29,700	.....	31,000	8,800	.....	.....	2,400	5,900	.....	.....	.....
226	1865	6	9	9	Gravel.....	10,800	.....	.....	4,500	.....	.....	2,400	.....	.....	.....	.....
227	1862	2 9-16	12	9	Gravel.....	1,667	200	1,667	877	.....	.....	140	573	.....	.....	177
228	1873	10	12	9	Gravel.....	23,817	.....	115,250	1,427	.....	.....	879	196	.....	.....	952
229	1872	6 9-10	10	10	Gravel.....	31,000	.....	13,555	7,000	.....	.....	1,500	5,000	.....	.....	.....
230	1869-72	10	8	15	Gravel.....	24,000	.....	.....	1,087	.....	.....	293	682	.....	.....	.....
231	1864	4	12	12	Gravel.....	3,800	600	.....	1,875	.....	101	550	1,855	.....	.....	.....
232	1869-70	5 1/2	12	10	Gravel.....	10,037	.....	11,500	1,733	.....	512	374	283	.....	.....	1,035
233	1859	2 1/2	20	16	Gravel.....	4,000	225	6,875	2,121	.....	160	912	688	.....	134	1,212
234	1867	16 1/8	10	8	Gravel.....	1,260	.....	.....	433	.....	17	180	196	.....	9	33
235	.....	3 1/2	.....	...	.....	5,875	.....	5,875	.....	.....	.....	35	135	.....	.....	112

TABLE No. XXXII.—Continued.

Receipts and Expenditures for last Five Years.																
Number of Road.	When Built.	Length in Miles or parts of Miles.	Width of Paving Material in Feet.	Thickness of Paving Material in Inches.	Kind of Paving Material.	Original Cost of Construction.	Cost of Betterments previous to 1875.	Amount of Stock Outstanding.	Receipts and Expenditures for last Five Years.							
									Receipts from Tolls.	Receipts from Other Sources.	Amount Paid Officers.	Amount Paid Gate Keepers.	Cost of Repairs.	Cost of Betterments.	Other Expenses.	Amount of Dividends Paid.
236	1867	6 1/2	9	12	Gravel	\$13,500	.....	\$13,500	\$8,986	.....	\$375	\$2,280	\$3,633	.....	.....	\$3,105
237	1861	7	12	15	Gravel	5,000	\$600	5,000	3,000	.....	214	1,590	525	\$250	\$35	600
238	1875	2 1/3	9	8	Shell rock and gravel	2,862	.....	250	790	.....	.....	240	152	87	.....	.....
239	1866-67	6 3/4	12	8	Gravel	8,500	.....	.....	2,447	.....	185	496	1,643	.....	.....	317
240	1859-62	13	10	7	Limestone	39,000	.....	30,000	11,120	.....	875	3,168	5,675	.....	.....	4,022
241	1850-53	20	20	18	Gravel	66,000	.....	54,000	25,083	\$150	357	4,198	20,847	.....	.....	.....
242	1868	12 1/2	14	16	Gravel	20,000	.....	16,000	5,192	.....	245	1,440	2,100	.....	.....	.....
243	1869	3	12	10	Gravel	4,500	.....	4,000	.....	Receipts not equal to expenses.	.....	.....	800	.....	.....	.....
244	1867	6 3/4	15	18	Gravel	12,000	.....	1,700	.....	.....	.....	120	.....	.....	100	.....
245	1866-70	6 1/2	12-16	10	Gravel	9,000	231	2,600	2,288	.....	76	740	968	466	.....	.....
246	1852-54	5	9	6	Stone	7,000	.....	37,500	3,175	.....	50	540	1,450	200	.....	.....
247	1867-68	5 3/4	12	8	Bank gravel	4,700	400	4,700	2,195	20	202	480	1,492	23	.....	.....
248	1863	8	14	12	Gravel and plank	16,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
249	1872-74	3 1/2	10	12	Gravel and sand	5,000	.....	5,000	1,020	.....	.....	340	680	.....	.....	.....
250	1871	5	16	8	Gravel	14,000	1,200	13,500	6,100	.....	.....	750	1,000	.....	.....	.....
251	1866-69	8	12	9	Pit gravel	12,000	.....	.....	384	.....	.....	130	179	.....	.....	.....
252	1853-59	12 1/4	12	12	Gravel	18,000	2,412	2,724	9,966	335	347	956	5,101	637	113	1,907
253	1865	6	22	18	Gravel	6,500	.....	2,320	3,000	.....	.....	1,000	2,000	.....	.....	.....
254	1874	6	20	10	Gravel	12,500	100	12,000	.....	.....	.....	.....	.....	.....	.....	.....
255	1863	10	16	12	Gravel	25,000	.....	9,500	8,501	.....	252	2,400	4,100	.....	.....	4,152
256	1878-80	8	12	10	Gravel	16,000	.....	11,000	1,800	.....	70	60	350	190	.....	.....

* Receipts and expenditures are for four years. † Receipts are for eight months. ‡ Dividends used to liquidate indebtedness incurred in construction for the year 1879 only. § In operation less than two months. ¶ Was originally laid with plank; in 1868 10 miles of it was abandoned, and 5 2/3 miles graveled; receipts and expenditures are therefore supposed to refer to the latter portion. †† Not yet completed. ‡‡ Cost to present company upon foreclosure. §§ Road No. 212 was originally 10 1/8 miles, and cost of construction was \$15,363; in 1878 three miles were abandoned; receipts and expenditures are given only for 1876, it being regarded by the president as showing the average yearly business. ¶¶ The secretary says this road could and should have been built for \$16,000.

NOTE.—Roads No. 215 to 256 inclusive have been added to the report of last year. About thirty roads in the State are yet unrepresented.

TABLE No. XXXIII.

Table showing the Mortgages, Liens, and Satisfaction of same; also, Real Estate Transfers for the Years ending May 31, 1873, to 1880, inclusive.

In this table the stars show the amount in which the satisfactions for the year were in excess of new mortgages made.
Allen County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	72	\$18,465	76	\$16,766	80	\$17,629	52	\$11,218	67	\$16,831	37	\$11,165	28	\$5,117	77	\$22,729
Same satisfied.....	130	4,269	62	2,789	35	14,305	58	13,174	26	7,793	25	6,708	14	3,171	70	20,780
Balance unsatisfied .....	.....	14,196	.....	13,977	.....	3,324	.....	*1,956	.....	9,038	.....	4,457	.....	2,916	.....	1,949
Other Real Estate Mort	1,049	1,292,402	900	1,020,678	1,050	1,352,442	1,063	1,121,349	1,109	972,038	810	716,185	393	387,919	797	631,570
Same satisfied	454	397,259	574	602,241	701	747,237	840	785,905	763	761,785	679	801,018	473	457,224	887	951,847
Balance unsatisfied .....	.....	895,143	.....	418,437	.....	635,205	.....	335,444	.....	210,251	.....	*84,833	.....	*69,305	.....	320,277
Chattel Mortgages.....	143	150,367	135	89,257	176	99,558	230	87,906	273	104,493	285	139,736	97	64,156	213	76,103
Same satisfied.....	34	21,441	30	31,015	32	20,123	27	20,695	29	11,706	60	24,679	53	24,441	27	14,170
Balance unsatisfied .....	.....	128,926	.....	58,242	.....	79,435	.....	67,211	.....	92,787	.....	115,057	.....	39,715	.....	61,933
Mechanics' Liens	47	13,216	55	18,699	51	8,739	48	10,691	33	3,715	48	6,712	11	1,193	26	6,105
Same satisfied	9	3,231	5	832	18	4,637	17	5,919	22	4,479	28	3,256	4	323	8	2,223
Balance unsatisfied .....	.....	9,985	.....	17,863	.....	4,102	.....	4,772	.....	*764	.....	3,456	.....	870	.....	3,882
Total bal. unsatisfied .....	.....	1,048,250	.....	583,619	.....	722,066	.....	\$105,471	.....	311,312	.....	*\$38,137	.....	*\$25,774	.....	67,764
Voluntary R.E. Transfers	1,772	2,272,886	1,501	2,103,383	1,623	2,118,035	1,305	1,702,826	1,310	2,507,347	1,110	1,418,140	663	\$736,478	1,513	1,684,195
Exec. and Admin. "	9	11,950	6	16,041	6	21,466	3	1,675	3	2,400	1	800	1	3,200	32	21,687
Sheriffs' Transfers	33	35,814	33	40,013	42	54,511	33	42,734	73	65,894	244	102,703	65	\$157,183	139	166,383
Auditors' Transfers	9	1,649	9	2,094	4	772	9	2,880	13	3,184	8	1,613	4	1,108	8	648
Commissioners' "	10	16,080	15	17,416	15	26,055	4	11,545	14	49,146	13	85,023	15	39,206	36	144,790
Tax Title Transfers	14	335	5	72	23	1,110	9	135	54	1,328	12	859	35	4,647	16	429
Total Transfers.....	1,847	2,338,714	1,569	2,179,019	1,713	2,221,949	1,363	1,761,795	1,467	2,629,299	1,388	1,559,138	1,783	\$841,822	1,744	2,008,132

TABLE No. XXXIII.—Continued.

Blackford County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	33	\$4,099	38	\$6,741	8	\$790	9	\$1,797	15	\$3,379	13	\$1,705	6	\$1,763	.....	.....
Same satisfied	16	1,887	16	2,698	4	451	7	1,307	23	3,591	14	1,694	17	2,666	.....	.....
Balance unsatisfied.....	.....	3,212	.....	3,043	.....	339	.....	490	.....	*212	.....	11	.....	*903	.....	.....
Other Real Est. Mort's.	120	77,838	134	65,976	147	119,960	289	82,220	296	207,660	165	78,102	77	16,716	.....	.....
Same satisfied.....	17	9,636	89	54,155	164	191,300	239	101,980	185	94,215	112	81,435	81	23,385	.....	.....
Balance unsatisfied.....	.....	68,202	.....	11,821	.....	*71,340	.....	*19,760	.....	112,445	.....	*3,393	.....	*6,669	.....	.....
Chattel Mortgages.....	25	6,218	19	4,327	30	15,631	43	7,135	55	10,635	42	6,425	33	7,804	.....	.....
Same satisfied.....	8	260	10	521	11	3,765	6	7,435	11	1,431	4	488	14	2,444	.....	.....
Balance unsatisfied.....	.....	5,958	.....	3,806	.....	11,866	.....	*300	.....	9,204	.....	5,937	.....	4,860	.....	.....
Mechanic's Liens.....	13	688	3	208	12	1,016	4	297	3	96	2	153	4	206	.....	.....
Same satisfied.....	1	21	1	10	2	171	3	380	1	71	3	96	4	310	.....	.....
Balance unsatisfied.....	.....	667	.....	198	.....	845	.....	*83	.....	25	.....	62	.....	*104	.....	.....
Total bal. unsatisfied	.....	\$78,039	.....	\$18,868	.....	*\$58,290	.....	*\$19,653	.....	\$122,462	.....	\$2,677	.....	*\$2,816	.....	.....
Vol. Real Est. Transfers	400	\$223,998	437	\$323,764	397	\$312,645	337	\$254,529	332	\$232,689	273	\$181,048	152	\$87,747	.....	.....
Ex. and Adm. Transfers	10	4,436	7	8,495	4	4,241	6	3,096	5	7,548	6	2,643	.....	.....	.....	.....
Sheriff's Transfers.....	2	650	7	5,088	11	3,333	14	4,782	21	9,821	23	12,314	.....	5,755	.....	.....
Auditors' Transfers.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Commiss'nr's Transfers.	1	760	7	1,975	.....	.....	8	2,177	6	8,825	.....	446	.....	1,886	.....	.....
Tax Title Transfers.....	.....	.....	4	22	18	160	2	80	20	793	11	390	4	116	.....	.....
Total Transfers.....	413	\$229,834	462	\$339,344	430	\$320,379	367	\$264,564	383	\$259,676	314	\$196,841	173	\$85,504	.....	.....

TABLE No. XXXIII.—Continued.

Boone County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	24	\$7,224	20	\$3,795	49	\$12,215	88	\$20,398	63	\$13,426	51	\$13,284	87	\$8,353	.....	.....
Same satisfied.....	31	6,975	13	2,202	46	9,304	76	18,146	46	12,498	38	12,140	81	8,200	.....	.....
Balance unsatisfied.....	.....	1,949	.....	1,593	.....	2,911	.....	2,252	.....	928	.....	1,144	.....	153	.....	.....
Other Real Est. Mort's	62	67,805	172	118,998	352	301,353	452	361,769	459	316,082	469	327,375	309	118,898	.....	.....
Same satisfied.....	274	242,892	298	248,415	329	252,521	248	197,803	270	197,518	321	267,365	295	184,204	.....	.....
Balance unsatisfied....	.....	*176,087	.....	*129,417	.....	48,832	.....	163,966	.....	118,514	.....	60,010	.....	*65,306	.....	.....
Chattel Mortgages.....	62	28,425	82	20,789	131	34,991	159	54,820	221	67,771	188	45,581	138	40,844	.....	.....
Same satisfied.....	18	6,830	19	10,282	33	9,247	29	12,635	47	10,301	48	18,907	44	19,590	.....	.....
Balance unsatisfied....	.....	16,595	.....	10,507	.....	25,744	.....	42,185	.....	57,470	.....	26,674	.....	21,254	.....	.....
Mechanics' Liens.....	14	915	32	25,917	18	2,756	19	9,307	12	1,638	10	1,489	3	129	.....	.....
Same satisfied.....	2	218	10	1,738	9	545	10	2,956	5	516	2	60	.....	.....	.....	.....
Balance unsatisfied....	.....	697	.....	24,179	.....	2,211	.....	6,351	.....	1,122	.....	1,429	.....	129	.....	.....
Total bal. unsatisfied	.....	*\$155,846	.....	*\$93,238	.....	79,698	.....	214,754	.....	178,034	.....	89,257	.....	\$21,536	.....	.....
Vol. Real Est. Transfers	1,345	1,661,602	1,043	1,237,698	1,235	1,319,296	1,130	1,228,534	1,136	1,125,778	1,027	980,663	953	825,093	.....	.....
Ex. and Adm. Transfers	16	22,000	8	27,647	12	8,184	14	25,576	10	9,377	11	11,038	9	3,787	.....	.....
Sheriffs' Transfers.....	27	18,186	13	7,817	21	12,137	64	33,433	47	36,632	58	44,767	133	150,080	.....	.....
Auditors' Transfers.....	10	1,535	2	426	5	1,677	18	11,316	6	2,536	4	2,040	2	22	.....	.....
Commiss'nr's Transfers	12	10,983	7	14,274	19	22,159	17	19,853	18	12,777	25	48,051	14	19,074	.....	.....
Tax Title Transfers....	10	83	6	61	3	10	4	32	4	118	14	197	40	599	.....	.....
Total Transfers.....	1,420	1,714,389	1,079	1,287,923	1,295	1,363,463	1,237	1,318,744	1,231	1,187,218	1,139	1,081,766	1,151	\$998,655	.....	.....

TABLE No. XXXIII.—Continued.

Brown County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	24	\$3,348	11	\$1,305	8	\$1,130	13	\$1,957	13	\$2,458	6	\$628	22	\$3,304
Same satisfied.....	3	500	.....	.....	3	575	2	200	4	440	4	303	7	765
Balance unsatisfied.....	2,848	.....	1,305	.....	545	.....	1,787	.....	2,018	.....	235	.....	2,539
Other Real Est. Mort's.	90	32,450	80	23,425	97	31,697	103	44,540	84	25,291	33	9,163	58	20,137
Same satisfied.....	21	10,814	29	19,218	24	9,918	20	8,908	22	9,133	2	220	46	10,680
Balance unsatisfied.....	21,636	.....	4,177	.....	21,779	.....	35,632	.....	16,158	.....	8,943	.....	9,557
Chattel Mortgages.....	32	9,845	22	7,535	21	8,174	20	11,135	27	6,323	13	1,215	34	5,811
Same satisfied.....	4	2,450	3	1,270	5	2,062	1	25	.....	.....	1	150	2	61
Balance unsatisfied.....	7,395	.....	6,266	.....	6,112	.....	11,110	.....	6,323	.....	1,065	.....	5,750
Mechanics' Liens.....	1	17	.....	.....	4	885	.....	.....	.....	.....
Same satisfied.....
Balance unsatisfied.....	1	17	.....	.....	4	885	.....	.....	.....	.....
Total bal. unsatisfied	31,879	.....	11,748	.....	28,453	.....	48,479	.....	25,384	.....	10,243	.....	17,846
*Vol. R. Est. Transfers	612	45,246	420	31,250	390	27,790	340	24,350	254	10,465	174	10,440	160	109,937
*Ex. and Adm. Transf's	10	8,277	12	4,402	12	5,333	12	5,271	14	5,133	1	120	28	3,419
Sheriff's Transfers.....	15	3,121	10	4,279	10	5,061	19	6,811	12	4,800	5	2,074	14	3,776
Auditor's Transfers.....	3	288	.....	.....	2	138	3	417	6	451	2	231	6	1,440
Commis'n'r's Transfers.	7	183	6	201	14	3	8	.....	2	840	4	1,640	4	1,614
Tax Title Transfers.....	15	493	21	356	11	242	18	250	28	560	11	275	28	616
Total Transfers.....	582	\$57,606	463	\$40,488	439	\$38,570	400	\$36,099	316	\$22,249	197	\$14,780	220	\$120,802

Records destroyed by fire in November, 1873.

TABLE No. XXXIII.—Continued.
Cass County.

Classification of Records.	1872-73		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	16	\$7,285	5	\$1,600	1	\$400	7	\$2,200	10	\$3,400	15	\$2,150	52	\$14,280	.....	.....
Same satisfied.....	11	3,085	6	1,225	4	900	5	1,550	7	1,850	9	1,950	48	1,177	.....	.....
Balance unsatisfied.....	.....	4,200	.....	375	.....	.....	.....	650	.....	1,550	.....	200	.....	13,103	.....	.....
Other Real Est. Mort's	560	357,080	522	321,000	630	346,000	540	328,100	571	319,028	497	261,000	355	254,702	.....	.....
Same satisfied.....	240	128,000	298	178,090	212	97,849	237	114,622	286	201,035	103	56,000	244	218,595	.....	.....
Balance unsatisfied.....	.....	229,080	.....	142,910	.....	248,151	.....	211,478	.....	117,993	.....	205,000	.....	36,107	.....	.....
Chattel Mortgages.....	108	66,714	103	32,143	140	45,580	98	45,930	90	49,419	66	21,700	106	30,705	.....	.....
Same satisfied.....	Not re- ported.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mechanic's Liens.....	39	8,900	41	9,133	27	48,925	49	16,277	18	4,423	29	2,727	10	1,085	.....	.....
Same satisfied.....	9	2,000	10	2,278	4	215	17	5,142	6	663	5	1,137	1	68	.....	.....
Balance unsatisfied.....	.....	6,900	.....	6,855	.....	48,710	.....	11,135	.....	3,760	.....	1,530	.....	1,017	.....	.....
Total bal. unsatisfied	.....	230,180	.....	150,140	.....	296,361	.....	223,263	.....	123,303	.....	206,790	.....	50,227	.....	.....
Vol. Real Est. Transfers	759	1,739,355	764	1,063,909	722	1,113,566	627	702,592	842	972,776	763	720,000	837	770,221	.....	.....
Ex. and Adm. Transfers	Not re- ported.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sheriff's Transfers.....	6	12,994	19	14,600	24	16,082	40	56,403	25	69,690	58	83,326	60	53,263	.....	.....
Auditor's Transfers.....	Not re- ported.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Commis'nr's Transfers	10	.....	12	.....	8	.....	9	.....	10	.....	6	.....	9	.....	.....	.....
Tax Title Transfers.....	2	97	4	75	1	43	.....	.....	35	1,559	12	473	18	314	.....	.....
Total Transfers.....	777	1,752,446	799	1,078,584	755	1,129,691	676	\$758,995	912	\$1,044,025	839	\$603,799	924	\$823,789	.....	.....

TABLE No. XXXIII.—Continued.

Crawford County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	22	\$4,120	18	\$2,334	19	\$3,092	28	\$3,959	12	\$1,350	6	\$588	8	\$1,020	.....	.....
Same satisfied.....	6	644	23	2,625	27	3,048	21	3,192	7	1,163	8	907	8	355	.....	.....
Balance unsatisfied.....	.....	3,476	.....	*291	.....	44	767	.....	.....	187	.....	*319	.....	665	.....	.....
Other Real Estate Mort.	65	47,508	79	24,978	101	47,805	79	20,374	61	25,014	56	17,521	58	22,076	.....	.....
Same satisfied.....	37	15,906	32	13,375	32	12,858	30	11,215	36	14,482	40	9,694	26	11,644	.....	.....
Balance unsatisfied.....	.....	31,602	.....	11,603	.....	34,947	.....	9,159	.....	10,532	.....	7,827	.....	10,482	.....	.....
Chattel Mortgages.....	2	3,720	6	2,324	4	488	14	2,994	10	867	7	575	9	1,973	.....	.....
Same satisfied.....	2	1,019	.....	.....	.....	.....	3	1,372	.....	.....	1	200	1	75	.....	.....
Balance unsatisfied.....	.....	2,701	.....	2,324	.....	488	.....	1,622	.....	867	.....	375	.....	1,898	.....	.....
Mechanics' Liens.....	.....	.....	2	313	3	472	2	97	.....	.....	2	117	2	67	.....	.....
Same satisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	42	.....	.....
Balance unsatisfied.....	.....	.....	.....	313	.....	472	.....	97	.....	.....	.....	117	.....	25	.....	.....
Total bal. unsatisfied	.....	37,779	.....	\$13,949	.....	\$35,951	.....	11,645	.....	11,586	.....	\$8,000	.....	\$13,020	.....	.....
*Voluntary R.E. Trans.	412	\$273,720	394	\$243,720	387	\$253,720	420	\$263,730	380	\$273,860	430	\$244,700	446	\$234,780	.....	.....
*Ex. and Adm. Trans's	12	7,840	13	6,840	12	6,740	13	6,840	19	7,830	15	6,870	19	6,870	.....	.....
Sheriff's Transfers.....	13	4,620	12	4,520	14	4,470	11	3,950	15	4,850	13	4,670	11	3,500	.....	.....
Auditor's Transfers.....	4	590	3	490	5	620	2	390	4	760	.....	.....	3	570	.....	.....
Commissioner's Trans's	3	840	4	980	6	1,030	7	1,850	9	1,190	11	1,880	9	1,280	.....	.....
Tax Title Transfers.....	8	64	7	86	9	78	10	120	8	65	9	98	7	85	.....	.....
Total Transfers.....	452	\$287,674	438	\$256,636	433	\$266,658	463	\$276,380	435	\$288,555	478	\$257,713	495	\$247,085	.....	.....

TABLE No. XXXIII.—Continued.

Daviess County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	4	\$353	17	\$2,203 597	25	\$3,461 265	18	\$3,139	40	\$6,188 220	31	\$4,506	33	\$4,892	11	\$1,698
Same satisfied.....
Balance unsatisfied.....	1,606	.....	3,196	.....	.....	.....	5,968	.....	.....	.....	.....	.....	.....
Other Real Est. Mort's.	121	72,002	229	110,010	103	58,601
Same satisfied.....	25	19,800	29	17,468	8	7,882
Balance unsatisfied.....	52,202	.....	92,542	.....	50,719
Chattel Mortgages.....	75	17,739	111	54,187	39	9,941
Same satisfied.....	9	1,669	20	7,916	2	1,500
Balance unsatisfied.....	16,070	.....	46,271	.....	8,441
Mechanics' Liens
Same satisfied.....
Balance unsatisfied.....
Total bal. unsatisfied	1,601	.....	3,196	.....	.....	.....	5,968	.....	68,272	.....	138,817	.....	59,160
Vol. Real Est. Transfers	264	219,371	614	296,392	375	190,392
Ex. and Adm. Transfers	3	1,166	16	6,157	4	4,966
Sheriffs' Transfers	7	6,314	74	99,629	54	62,803
Auditors' Transfers
Commls'n's' Transfers	1	200	2	1,891	3	554
Tax Title Transfers.....	1	2	10	142	1	8
Total Transfers	276	227,068	716	\$404,211	437	\$258,723

TABLE No. XXXIII.—Continued.

Decatur County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	1	\$500	1	\$1,300	7	\$258	8	\$2,100	7	\$1,050	16	\$8,650	7	\$4,000	22	\$8,450
Same satisfied.....	2	900	2	400	11	5,200	4	900	3	925	3	1,300	5	1,863	30	9,740
Balance unsatisfied.....	.....	400	.....	900	.....	4,942	.....	1,200	.....	125	.....	7,350	.....	2,137	.....	1,300
Other Real Est. Mort's	163	132,911	301	300,564	286	394,721	262	239,753	303	245,043	266	252,904	170	133,402	425	218,083
Same satisfied.....	71	82,443	112	121,882	125	178,878	118	130,995	156	213,925	157	167,980	24	132,061	347	96,050
Balance unsatisfied.....	.....	50,463	.....	178,682	.....	215,843	.....	107,758	.....	31,118	.....	84,924	.....	1,341	.....	22,033
Chattel Mortgages.....	19	6,200	47	24,548	69	18,380	81	16,814	96	32,880	116	34,032	51	5,923	70	13,426
Same satisfied.....	28	1,500	24	9,346	27	7,200	8	1,416	36	16,400	28	6,800	2	600	64	12,204
Balance unsatisfied.....	.....	4,700	.....	15,202	.....	11,180	.....	15,398	.....	16,480	.....	27,232	.....	5,323	.....	1,210
Mechanics' Liens.....	9	385	3	187	5	1,489	15	933	10	630	28	3,774	.....	.....	.....	.....
Same satisfied.....	1	44	2	87	2	161	2	381	1	29	12	1,266	.....	.....	.....	.....
Balance unsatisfied.....	.....	341	.....	100	.....	1,328	.....	552	.....	601	.....	2,508	.....	.....	.....	.....
Total bal. unsatisfied	.....	55,109	.....	194,884	.....	223,409	.....	124,908	.....	48,324	.....	122,014	.....	8,801	.....	23,243
Vol. R. E. Transfers..	354	348,250	589	682,462	560	637,900	566	589,893	609	648,775	594	654,442	254	278,105	618	693,400
Ex. and Adm. Trans..	5	14,005	2	1,200	5	9,093	5	15,661	9	26,701	5	11,210	1	550	40	60,262
Sheriff's Transfers.....	11	10,639	21	52,292	9	5,163	8	13,484	9	2,993	14	9,084	12	8,470	31	46,550
Auditor's Transfers.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1,600	.....	.....	4	.....
Commissioner's Transf's.	1	1,710	2	1,560	1	1,926	2	5,445	1	800	.....	.....	.....	.....	12	11,325
Tax Title Transfers.....	.....	.....	3	10	6	113	3	79	10	153	.....	316	.....	34	8	559
Total Transfers.....	871	\$374,604	617	\$737,524	581	\$654,195	584	\$624,562	638	\$679,422	627	\$670,651	274	\$287,169	713	\$812,096

TABLE No. XXXIII.—Continued.

DeKalb County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	54	\$14,481	22	\$7,260	4	\$1,700	9	\$3,750	4	\$1,700	6	\$1,910	7	\$2,400	19	\$6,416
Same satisfied.....	3	736	7	1,586	7	1,080	8	1,728	6	1,260	10	1,205	4	1,900	28	2,478
Balance unsatisfied .....	.....	13,745	.....	5,674	.....	680	.....	2,022	.....	440	.....	705	.....	500	.....	3,938
Other B. E. Mortgages..	333	831,408	431	376,531	438	384,151	423	341,975	395	272,253	358	250,719	143	75,044	401	179,667
Same satisfied.....	193	111,250	237	163,325	263	184,047	272	251,705	251	243,150	277	250,400	89	19,750	15	4,716
Balance unsatisfied.....	.....	220,158	.....	213,206	.....	180,104	.....	90,270	.....	29,103	.....	*9,681	.....	55,294	.....	174,951
Chattel Mortgages	49	16,485	59	13,876	86	26,555	86	37,408	135	43,774	147	46,287	48	8,494	194	31,321
Same satisfied.....	.....	.....	.....	.....	9	1,821	12	6,512	16	6,039	21	7,119	15	4,374	2	375
Balance unsatisfied .....	.....	16,485	.....	13,876	.....	24,735	.....	30,896	.....	37,735	.....	39,163	.....	4,120	.....	30,946
Mechanics' Liens.....	12	1,122	31	2,612	46	3,734	144	8,321	9	366	15	8,874	2	155	18	1,149
Same satisfied.....	.....	.....	4	97	9	1,340	20	1,859	13	536	.....	.....	.....	.....	1	33
Balance unsatisfied.....	.....	1,122	.....	2,515	.....	2,394	.....	6,462	.....	*170	.....	8,874	.....	155	.....	1,116
Total bal. unsatisfied	.....	\$251,510	.....	\$235,271	.....	\$207,913	.....	\$129,650	.....	67,108	.....	38,966	.....	\$60,069	.....	\$210,951
Voluntary B. E. Trans.. Ex'rs and Adm'rs ..	737	\$799,555	761	\$302,345	774	\$315,725	743	\$778,943	728	\$733,845	602	\$505,684	262	\$218,104	749	\$760,554
Sheriffs' Transfers.....	7	6,850	4	3,115	2	1,460	5	4,130	.....	.....	8	10,668	3	3,424	15	15,662
Auditors' Transfers.....	7	8,000	18	12,400	16	12,911	12	10,310	24	11,998	68	55,945	24	10,506	59	68,613
Commissioners'	2	428	.....	.....	2	1,068	1	288	.....	.....	1	85	.....	.....	2	1,898
Tax Title Transfers	3	5,574	1	1,800	1	1,000	1	660	3	8,600	8	3,436	.....	200	19	14,750
	3	45	4	34	3	127	.....	.....	1	10	7	116	5	44	9	548
Total Transfers.....	759	\$820,449	788	\$819,694	798	\$832,291	763	\$794,331	756	\$751,463	679	\$677,534	295	\$227,288	853	\$862,025

TABLE No. XXXIII.—Continued.

Delaware County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	68	\$11,180	54	\$8,135	66	\$18,242	51	\$9,058	45	\$9,799	38	\$7,761	23	\$3,911	54	\$11,830
Same satisfied.....	2	262	3	625	11	2,862	16	2,609	6	1,180	26	4,256	14	1,933	.....	.....
Balance unsatisfied.....	.....	10,918	.....	7,510	.....	15,380	.....	7,044	39	8,619	.....	3,505	.....	1,978	.....	.....
Other Real Est. Mort's.	334	436,368	345	342,042	392	536,668	373	376,718	435	380,101	397	333,725	164	166,424	333	320,493
Same satisfied.....	19	13,655	73	49,248	128	98,681	220	161,030	255	189,196	234	246,976	413	414,411	48	28,957
Balance unsatisfied.....	.....	422,713	.....	292,794	.....	437,987	.....	215,688	.....	190,906	.....	86,749	.....	*247,987	.....	291,536
Chattel Mortgages.....	57	12,861	66	19,707	106	52,453	112	56,533	115	43,584	112	35,577	55	18,741	96	24,467
Same satisfied.....	5	350	16	6,849	21	7,382	11	5,877	22	9,537	14	3,601	49	13,443	16	5,191
Balance unsatisfied ..	.....	12,511	.....	12,858	.....	45,071	.....	50,656	.....	34,047	.....	31,976	.....	5,298	.....	19,276
Mechanics' Liens.....	18	1,164	23	2,734	35	2,127	47	7,405	16	1,137	16	2,813	1	26	4	1,669
Same satisfied.....	5	312	9	837	20	1,979	16	1,562	8	850	6	947	.....	.....	.....	.....
Balance unsatisfied.....	.....	852	.....	1,897	.....	148	.....	5,843	.....	287	.....	1,866	.....	.....	.....	.....
Total bal. unsatisfied	.....	446,994	.....	315,059	.....	498,586	.....	279,231	.....	233,858	.....	124,086	.....	*240,711	.....	310,812
Vol. Real Est. Transfers	802	972,360	747	969,991	896	970,771	718	769,726	725	789,661	674	699,499	294	325,117	901	943,963
Ex. and Adm. Transfers	12	11,904	7	15,812	29	25,130	21	30,082	17	12,979	13	14,661	7	6,863	22	27,039
Sheriffs' Transfers.....	15	25,095	12	20,482	15	18,604	12	13,240	17	13,267	43	33,518	19	12,179	55	52,918
Auditors' Transfers ..	.....	.....	5	1,353	.....	.....	1	253	.....	.....	.....	.....	2	1,323	2	403
Commiss'n's Transfers	2	2,300	12	10,542	12	27,441	3	6,650	3	2,929	10	12,900	7	5,865	9	10,419
Tax Title Transfers.....	9	549	11	149	9	108	4	141	19	670	11	183	16	987	4	219
Total Transfers.....	840	1,012,208	794	1,008,229	961	1,042,054	769	\$830,092	781	\$819,506	761	\$760,841	345	\$852,334	933	\$1,034,961

TABLE No. XXXIII.—Continued.

Dubois County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	12	\$2,715	6	\$842	12	\$2,793	13	\$3,975	10	\$2,400	20	\$5,185	26	\$5,737	.....	.....
Same satisfied.....	6	1,548	4	622	3	841	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	1,167	.....	250	.....	1,952	.....	3,975	.....	2,400	.....	5,185	.....	5,737	.....	.....
Other Real Est. Mort's..	90	59,400	147	100,098	173	138,000	161	131,000	191	149,150	173	138,400	98	78,000	.....	.....
Same satisfied.....	67	40,540	74	51,800	80	72,800	90	81,000	87	70,092	71	56,800	25	20,000	.....	.....
Balance unsatisfied....	.....	18,860	.....	48,298	.....	65,200	.....	50,000	.....	79,058	.....	81,600	.....	58,000	.....	.....
Chattel Mortgages.....	22	1,982	40	2,105	38	1,842	49	2,540	28	1,224	51	3,510	21	1,098	.....	.....
Same satisfied.....	11	1,296	18	942	22	1,100	31	1,700	16	800	28	1,711	8	509	.....	.....
Balance unsatisfied.....	.....	686	.....	1,163	.....	742	.....	840	.....	424	.....	1,799	.....	589	.....	.....
Mechanics' Liens.....	1	25	1	176	1	270	.....	.....	2	112	3	450	8	675	.....	.....
Same satisfied.....	.....	.....	.....	.....	1	270	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	25	.....	176	.....	.....	.....	.....	.....	112	.....	450	.....	675	.....	.....
Total bal. unsatisfied	.....	\$20,738	.....	\$49,887	.....	\$67,894	.....	\$54,815	.....	\$81,994	.....	\$89,034	.....	\$65,001	.....	.....
Vol. Real Est. Transfers	159	\$75,000	200	\$85,000	195	\$83,000	211	\$91,300	261	\$101,000	400	\$111,095	100	\$46,200	.....	.....
Ex. and Adam. Trans's.	3	492	1	300	7	900	4	992	.....	.....	2	300	1	700	.....	.....
Sheriffs' Transfers.....	7	3,602	5	2,702	8	3,500	9	3,600	7	6,700	14	9,500	15	6,900	.....	.....
Auditors' Transfers.....	13	111	17	362	5	40	3	64	7	120	10	386	7	90	.....	.....
Commiss'nr's Transfers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tax Title Transfers.....	12	98	18	160	3	23	8	65	7	127	9	385	6	60	.....	.....
Total Transfers.....	185	\$79,303	241	\$88,524	218	\$87,468	230	\$96,021	282	\$107,947	435	\$121,666	129	\$53,950	.....	.....

TABLE No. XXXIII.—Continued.

Fayette County.

Classification of Records.	1872-73.		1873-74		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	5	\$1,842	10	\$4,620	6	\$3,460	7	\$3,030	9	\$4,716	4	\$1,790	.....	.....	.....	.....
Same satisfied.....	1	800	1	260	2	1,900	1	450	2	.....	1	500	.....	.....	.....	.....
Balance unsatisfied.....	.....	1,042	.....	4,010	.....	2,200	.....	2,580	.....	4,716	.....	1,290	.....	.....	.....	.....
Other Real Estate Mort	148	53,478	175	252,296	179	192,417	177	202,440	56	250,183	150	216,461	.....	\$71,353	.....	.....
Same satisfied.....	96	175,477	90	34,941	126	56,266	77	48,066	103	14,833	106	17,416	10	1,315	.....	.....
Balance unsatisfied.....	.....	*121,929	.....	217,355	.....	136,151	.....	154,374	.....	225,300	.....	199,045	.....	70,038	.....	.....
Chattel Mortgages	40	13,062	47	17,366	57	26,841	56	22,167	108	42,896	94	57,994	27	11,571	.....	.....
Same satisfied.....	12	2,874	11	7,210	20	12,688	8	2,784	11	8,024	7	585	.....	.....	.....	.....
Balance unsatisfied .....	.....	10,188	.....	10,126	.....	14,153	.....	19,383	.....	34,872	.....	57,409	.....	11,571	.....	.....
Mechanics' Liens.....	7	897	14	2,591	17	1,366	19	5,222	11	1,413	14	1,995	.....	.....	.....	.....
Same satisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	897	.....	2,591	.....	1,366	.....	5,222	.....	1,413	.....	1,995	.....	.....	.....	.....
Total bal. unsatisfied	.....	*\$109,872	.....	\$234,062	.....	\$153,870	.....	\$181,559	.....	\$276,801	.....	\$259,739	.....	\$81,609	.....	.....
Voluntary B. E. Trans..	260	1,466,083	298	\$454,952	261	\$529,414	240	\$519,783	230	\$366,539	254	\$323,153	52	\$81,758	.....	.....
Ex. and Adm. Trans....	4	27,842	3	10,455	4	16,494	2	1,000	1	2,500	3	4,430	2	4,000	.....	.....
Sheriffs' Transfers	6	9,062	9	2,801	13	40,734	20	21,141	19	58,179	17	28,984	6	11,272	.....	.....
Auditors' Transfers .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Commissioners' Trans's	1	500	1	110	2	242	1	1,201	.....	.....	.....	.....	.....	.....	.....	.....
Tax Title Transfers	2	3,027	3	603	5	123	1	150	2	79	3	189	.....	.....	.....	.....
Total Transfers	273	1,506,514	314	\$468,821	288	\$687,007	264	\$543,375	252	\$427,297	277	\$356,756	61	\$97,030	.....	.....

TABLE No. XXXIII.—Continued.
Gibson County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	58	\$13,175	44	\$54,546	92	\$18,251	23	\$5,070	21	\$5,070	33	\$7,801	8	\$2,005	24	\$6,392
Same satisfied.....	34	7,739	43	10,820	28	5,609	32	7,474	43	11,682	35	8,551	15	2,529	35	8,052
Balance unsatisfied.....	.....	5,436	.....	43,726	.....	12,642	.....	*2,404	.....	*6,612	.....	*750	.....	*1,524	.....	*1,660
Other Real Est. Mort's	205	195,344	283	98,951	283	219,979	287	261,691	255	209,490	277	147,494	102	69,140	412	289,842
Same satisfied.....	14	88,061	46	71,396	88	78,491	124	65,548	119	57,777	73	10,583	.....	10,061	90	57,472
Balance unsatisfied.....	.....	107,283	.....	27,555	.....	141,488	.....	196,143	.....	151,713	.....	136,911	.....	59,079	.....	232,370
Chattel Mortgages.....	114	45,045	142	27,467	194	52,636	204	44,452	196	41,030	213	107,873	77	51,908	210	64,557
Same satisfied.....	2	26,076	19	9,774	11	5,113	10	28,981	36	8,918	8	43,821	.....	1,459	53	21,394
Balance unsatisfied.....	.....	18,969	.....	17,693	.....	47,523	.....	20,471	.....	32,112	.....	64,052	.....	50,444	.....	43,163
Mechanic's Liens.....	6	1,199	5	415	6	1,231	3	213	6	542	8	834	2	392	11	8,682
Same satisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	80
Balance unsatisfied.....	.....	1,199	.....	415	.....	1,231	.....	213	.....	542	.....	834	.....	392	.....	8,602
Total bal. unsatisfied	.....	\$132,887	.....	\$89,389	.....	\$202,884	.....	\$214,423	.....	\$177,755	.....	\$201,047	.....	\$108,391	.....	\$282,475
Vol. Real Est. Transfers	547	\$590,247	764	\$756,448	659	\$562,580	595	\$636,812	509	448,410	602	488,906	892	841,712	776	740,471
Ex. and Adm. Transfers	5	3,574	6	8,616	2	670	4	1,590	12	7,988	11	6,719	10	9,619	16	13,126
Sheriffs' Transfers.....	37	20,985	85	44,399	26	26,623	36	55,177	67	83,994	95	88,809	31	20,500	64	56,637
Auditors' Transfers.....	19	3,345	1	1,140	1	35	5	1,393	1	50	2	810	.....	.....	17	18,559
Commiss'rs' Transfers.....	3	7,555	3	1,600	1	5	2	775	3	4,763	10	9,127	3	2,101	18	18,305
Tax Title Transfers.....	34	1,284	3	36	11	899	1	902	19	218	25	761	.....	.....	24	699
Total Transfers.....	645	\$627,091	812	\$812,239	700	\$590,872	643	\$696,649	611	\$545,423	745	\$590,132	436	\$373,932	915	\$847,797

TABLE No. XXXIII.—Continued.

Hancock County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	27	\$6,500	21	\$5,300	30	\$7,100	12	\$3,200	8	\$2,050	24	\$3,040	5	\$2,250	16	\$5,795
Same Satisfied.....	9	2,850	7	2,000	13	3,465	7	1,900	13	3,700	10	3,150	5	1,250	.....	.....
Balance unsatisfied.....	.....	3,850	.....	3,300	.....	3,635	.....	1,300	.....	.....	.....	4,890	.....	1,000	.....	.....
Other Real Est. Mort's.	250	200,000	300	238,000	275	300,400	425	350,000	450	365,000	390	200,000	180	97,500	813	232,500
Same satisfied.....	81	70,000	144	154,000	227	232,200	117	231,800	196	159,600	227	105,410	86	68,268	.....	.....
Balance unsatisfied.....	.....	130,000	.....	141,000	.....	68,200	.....	118,200	.....	195,400	.....	94,590	.....	29,232	.....	.....
Chattel Mortgages.....	40	20,000	40	24,000	30	27,000	36	20,000	75	25,000	60	28,000	20	10,000	109	27,540
Same satisfied.....	16	14,000	16	10,600	35	16,000	30	16,000	16	6,000	16	7,600	12	4,800	.....	.....
Balance unsatisfied.....	.....	6,000	.....	13,500	.....	11,000	.....	5,000	.....	19,000	.....	20,500	.....	5,200	.....	.....
Mechanics' Liens.....	8	3,176	10	1,338	7	432	18	1,300	10	1,320	4	180	2	162	8	227
Same satisfied.....	1	300	.....	.....	.....	.....	3	205	4	772	2	80	2	175	.....	.....
Balance unsatisfied.....	.....	2,876	.....	1,338	.....	432	.....	1,095	.....	598	.....	100	.....	13	.....	.....
Total bal. unsatisfied.....	.....	142,726	.....	162,138	.....	83,267	.....	125,535	.....	213,348	.....	120,090	.....	35,419	.....	.....
Vol. Real Est. Transfers	685	560,000	671	537,000	848	700,000	678	527,250	640	485,200	571	495,700	331	295,000	711	661,360
Ex. and Adm. Transfers	8	6,700	8	14,900	16	22,700	16	17,470	9	16,140	15	12,550	12	10,110	33	31,976
Sheriffs' Transfers.....	6	4,650	6	9,020	11	4,200	20	10,620	21	17,130	46	25,750	21	19,900	33	35,000
Auditors' Transfers.....	2	50	9	320	2	15	3	600	3	1,100	5	1,160	6	.....	6	418
Commiss'rs' Transfers	2	1,900	.....	.....	2	200	3	1,700	1	90	3	7,020	4	5,390	8	2,078
Tax Title Transfers.....	1	11	1	13	2	18	1	20	.....	.....	4	145	6	105	10	224
Total Transfers.....	701	\$573,311	695	561,253	881	\$727,133	721	\$557,660	674	\$519,660	644	\$542,315	370	\$330,505	801	\$731,066

TABLE No. XXXIII.—Continued.

Howard County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	41	\$14,938	27	\$3,230	24	\$8,725	25	\$8,208	22	\$6,936	38	\$12,772	23	\$6,167	.....	.....
Same satisfied.....	36	13,188	18	5,938	5	1,375	3	1,500	1	300	3	1,100	.....	.....	.....	.....
Balance unsatisfied.....	.....	1,750	.....	2,352	.....	7,350	.....	6,706	.....	6,636	.....	11,672	.....	6,167	.....	.....
Other R. Est. Mortg's...	374	275,087	432	438,374	425	428,954	488	456,440	553	625,025	380	260,229	158	308,889	.....	.....
Same satisfied.....	128	132,252	246	233,724	191	152,685	184	143,847	145	212,590	63	30,630	8	3,725	.....	.....
Balance unsatisfied.....	.....	142,835	.....	204,650	.....	276,269	.....	312,593	.....	412,435	.....	229,599	.....	305,164	.....	.....
Chattel Mortgages.....	56	27,253	97	56,374	97	31,817	133	47,193	141	43,365	194	51,557	62	29,935	.....	.....
Same satisfied.....	12	8,994	25	12,257	27	9,994	33	10,100	27	8,448	29	3,972	4	247	.....	.....
Balance unsatisfied.....	.....	18,259	.....	44,117	.....	21,823	.....	37,093	.....	34,917	.....	47,585	.....	29,688	.....	.....
Mechanics' Liens.....	16	2,439	46	14,092	53	6,709	39	7,541	26	2,591	26	2,853	5	342	.....	.....
Same satisfied.....	6	835	4	336	14	1,613	10	2,076	5	667	9	849	1	87	.....	.....
Balance unsatisfied.....	.....	1,604	.....	13,756	.....	4,196	.....	5,465	.....	1,924	.....	2,004	.....	255	.....	.....
Total bal. unsatisfied	.....	164,448	.....	264,875	.....	309,638	.....	361,857	.....	455,912	.....	290,860	.....	341,274	.....	.....
Vol. R. Est. Transfers...	974	1,070,341	954	988,584	1,195	1,243,475	962	1,110,416	972	1,013,961	726	729,115	340	348,622	.....	.....
Ex. and Adm. Trans...	11	9,028	10	12,683	19	32,624	17	15,349	19	12,195	15	9,602	6	2,035	.....	.....
Sheriffs' Transfers.....	13	4,355	2	1,980	17	6,324	29	15,927	49	38,348	83	83,225	52	52,812	.....	.....
Auditors' Transfers....	2	455	9	2,466	7	2,887	5	1,101	.....	.....	1	348	1	851	.....	.....
Commissioners' Trans.	2	3,100	.....	.....	9	16,250	8	14,078	19	16,371	14	1,939	8	17,242	.....	.....
Tax Title Transfers....	13	485	6	699	20	2,917	10	298	82	2,462	25	452	41	869	.....	.....
Total Transfers.....	1,015	1,087,764	981	1,001,412	1,267	1,304,477	1,031	1,167,164	1,134	1,083,337	864	\$774,681	448	421,431	.....	.....

TABLE No. XXXIII.—Continued.
Huntington County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	20	\$4,713	11	\$1,925	29	\$9,001	20	\$5,146	23	\$5,443	21	\$4,160	6	\$1,483	21	\$5,425
Same satisfied.....	11	2,612	6	1,025	3	654	1	150	1	140	2	200	1	57	25	7,655
Balance unsatisfied.....	.....	2,101	.....	900	.....	8,347	.....	4,996	.....	5,302	.....	3,960	.....	1,426	.....	*2,230
Other Real Est. Mort's.	64	58,134	494	453,955	351	360,929	356	850,533	379	312,964	277	188,561	170	125,766	394	291,681
Same satisfied.....	40	37,942	331	314,641	192	183,024	149	117,989	111	72,019	50	30,760	14	6,209	13	1,172
Balance unsatisfied.....	.....	20,192	.....	139,314	.....	177,905	.....	232,544	.....	240,945	.....	157,801	.....	119,557	.....	290,509
Chattel Mortgages.....	50	14,495	117	39,898	66	18,250	95	30,971	51	41,623	183	42,743	52	12,893	153	43,225
Same satisfied.....	9	3,666	37	14,253	16	3,135	27	13,004	38	8,166	22	5,403	2	150	38	8,827
Balance unsatisfied.....	.....	10,829	.....	25,645	.....	15,115	.....	17,967	.....	33,457	.....	37,340	.....	12,743	.....	34,398
Mechanics' Liens.....	12	929	19	3,889	16	1,665	6	1,318	7	1,135	8	1,530	4	2,495	6	660
Same satisfied.....	5	462	11	984	8	665	2	296	1	103	2	468	.....	.....	1	47
Balance unsatisfied.....	.....	467	.....	2,905	.....	999	.....	1,022	.....	1,032	.....	1,062	.....	2,495	.....	613
Total bal. unsatisfied	.....	\$33,589	.....	\$168,764	.....	\$202,366	.....	\$256,529	.....	\$280,736	.....	\$200,163	.....	\$136,231	.....	\$323,290
Vol. R. Est. Transfers..	747	\$720,413	740	\$922,935	859	1,020,201	857	\$905,425	677	\$613,904	625	\$582,523	317	\$326,604	789	\$759,090
Ex. and Adm. Transf's..	7	4,201	9	10,268	8	4,675	2	11,162	7	2,075	1	280	4	3,790	18	18,041
Sheriff's Transfers.....	13	16,669	7	11,781	15	11,424	17	13,114	16	8,544	23	15,646	19	39,906	27	28,419
Auditor's Transfers.....	7	1,377	6	386	11	571	11	464	2	14	2	30	2	206	4	590
Commis'nr's Transfers..	10	13,023	2	17,297	6	9,490	6	5,236	11	8,481	5	5,781	1	950	6	10,380
Tax Title Transfers.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Transfers.....	784	\$755,683	764	\$926,667	899	1,046,301	893	\$935,401	713	\$632,948	656	\$604,260	343	\$371,456	844	\$816,520

TABLE No. XXXIII.—Continued.

Jasper County.

Classification of Records.	1872-73		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	10	\$3,840	5	\$1,626	24	\$8,045	14	\$4,616	19	\$5,810	16	\$3,158	21	\$6,003	22	\$6,339
Same satisfied.....	5	1,777	5	2,025	11	2,870	6	1,637	10	4,135	3	1,111	8	2,903	11	3,071
Balance unsatisfied.....	.....	1,863	.....	399	.....	5,175	.....	2,979	.....	1,675	.....	2,047	.....	3,100	.....	3,268
Other Real Est. Mort's	187	148,807	202	164,247	468	406,297	251	246,264	286	202,643	218	154,165	193	190,305	174	1,964,505
Same satisfied..	132	103,936	198	154,922	176	131,729	208	152,297	133	153,010	168	114,767	165	150,095	98	162,910
Balance unsatisfied.....	.....	44,871	.....	9,325	.....	274,568	.....	93,967	.....	49,633	.....	39,398	.....	40,210	.....	1,801,595
Chattel Mortgages.....	33	8,047	38	11,701	36	11,583	111	32,887	106	34,647	146	49,015	201	19,765	86	19,848
Same satisfied.....	2	171	10	2,435	16	2,483	14	3,631	10	4,151	20	7,695	20	7,106	11	1,674
Balance unsatisfied.....	.....	7,876	.....	9,266	.....	9,100	.....	29,256	.....	30,506	.....	41,320	.....	12,619	.....	18,174
Mechanic's Liens.....	5	523	5	612	7	428	6	690	3	274	5	465	6	900	.....	.....
Same satisfied.....	.....	.....	.....	.....	1	66	.....	.....	1	73	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	523	.....	612	.....	372	.....	690	.....	201	.....	465	.....	940	.....	.....
Total bal. unsatisfied	.....	55,133	.....	18,804	.....	289,215	.....	126,892	.....	82,015	.....	83,230	.....	56,869	.....	1,823,037
Vol. Real Est. Transfers	725	637,221	665	584,306	708	716,345	596	596,697	409	457,512	364	439,807	299	388,273	504	380,951
Ex. and Adm. Transfers	3	.....	12	.....	6	.....	9	.....	7	.....	8	.....	6	.....	11	1,435
Sheriff's Transfers.....	9	7,943	18	6,845	11	6,511	18	13,520	11	4,616	28	25,132	17	19,639	24	33,767
Auditor's Transfers.....	3	.....	2	.....	4	.....	1	.....	11	.....	3	.....	1	.....	.....	.....
Commiss'nr's Transfers	11	.....	13	.....	13	.....	11	.....	7	.....	14	.....	6	.....	16	13,470
Tax Title Transfers.....	48	.....	26	.....	48	.....	8	.....	31	.....	7	.....	104	.....	16	231
Total Transfers.....	799	.....	736	.....	790	.....	643	.....	476	.....	424	.....	433	.....	571	\$429,864

TABLE No. XXXIII.—Continued.

Jefferson County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	16	\$4,805	9	\$2,135	19	\$5,220	15	\$5,925	12	\$3,175	30	\$8,103	21	\$5,687	33	7,855
Same satisfied.....	6	1,075	1	350	2	343	4	1,175	1	400	.....	.....	.....	.....	37	10,850
Balance unsatisfied.....	.....	3,730	.....	1,785	.....	4,880	.....	4,750	.....	2,775	.....	8,103	.....	5,687	.....	3,495
Other Real Est. Mort's	1,030	365,218	848	240,814	637	413,093	449	258,640	550	372,816	519	322,939	108	69,134	341	216,770
Same satisfied.....	169	389,683	224	228,837	247	129,965	146	130,196	117	64,420	53	68,684	13	22,742	385	270,009
Balance unsatisfied....	.....	24,465	.....	11,977	.....	283,127	.....	128,444	.....	308,396	.....	254,255	.....	46,392	.....	6,770
Chattel Mortgages.....	17	15,910	22	28,356	24	57,292	34	21,493	17	14,447	49	47,347	59	74,407	40	21,292
Same satisfied.....	6	4,882	7	4,937	2	747	6	1,996	3	997	9	2,539	6	3,303	13	8,927
Balance unsatisfied.....	.....	11,028	.....	23,419	.....	57,045	.....	19,497	.....	13,450	.....	44,808	.....	71,104	.....	12,365
Mechanics' Liens.....	9	943	12	2,823	8	1,529	9	1,686	11	2,076	7	652	3	692	5	200
Same satisfied.....	5	652	8	1,841	2	659	4	368	2	796	1	190	1	390	1	265
Balance unsatisfied.....	.....	291	.....	981	.....	870	.....	1,318	.....	1,280	.....	362	.....	302	.....	65
Total bal. unsatisfied	.....	29,416	.....	\$38,162	.....	345,922	.....	154,009	.....	325,901	.....	307,528	.....	123,485	.....	19,135
Vol. Real Est. Transfers	651	623,571	335	648,554	526	571,238	509	558,743	446	486,829	459	392,344	26	18,177	553	490,664
Ex. and Adm. Transfers	14	26,288	7	5,442	7	7,529	1	150	2	1,492	5	8,736	.....	.....	11	3,421
Sheriffs' Transfers.....	18	16,708	14	10,508	30	27,427	23	41,269	25	40,682	27	62,698	12	6,422	14	12,075
Auditors' Transfers.....	1	183	1	680	3	1,000	3	1,615	.....	.....	.....	.....	.....	.....	2	887
Commiss'nr's Transfers	14	7,881	4	4,761	4	3,721	6	10,670	3	1,150	9	15,275	.....	.....	3	1,923
Tax Title Transfers.....	11	76	5	10,714	8	163	10	183	.....	.....	10	290	1	10	6	68
Total Transfers.....	709	674,707	386	689,659	578	611,069	552	612,630	476	530,153	510	474,343	39	23,609	589	509,038

TABLE No. XXXIII.—Continued.

Johnson County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	11	\$1,525	18	\$6,775	17	\$6,376	23	\$9,236	15	\$5,260
Same satisfied.....	3	1,800	3	650	3	1,026	1	450	.....	.....
Balance unsatisfied.....	2,725	.....	6,125	.....	5,350	.....	8,786	.....	.....
Other Real Estate Mort	154	161,339	233	274,900	269	246,242	333	245,298	160	133,533
Same satisfied.....	109	95,759	127	119,092	70	58,521	60	28,927	6	11,971
Balance unsatisfied.....	65,580	.....	155,808	.....	187,821	.....	216,371	.....	121,562
Chattel Mortgages.....	71	24,857	96	45,518	104	29,043	69	16,909	34	9,954
Same satisfied.....	12	1,560	24	12,093	21	3,844	12	2,705	2	2,471
Balance unsatisfied.....	23,297	.....	33,425	.....	25,199	.....	14,204	.....	7,483
Mechanics' Liens.....	25	2,869	20	1,622	17	3,180	9	410	11	857
Same satisfied.....	7	1,111	4	374	2	100	1	38	3	383
Balance unsatisfied.....	1,758	.....	1,248	.....	3,080	.....	372	.....	474
Total bal. unsatisfied	93,360	.....	196,846	.....	221,450	.....	239,499	.....	129,519
Voluntary R.E. Trans.	307	303,303	393	324,828	401	299,233	388	300,014	515	396,000
Ex. and Adm Trans's.	7	6,609	12	11,142	11	4,630	12	12,567	25	17,679
Sheriff's Transfers.....	10	7,863	15	12,513	30	28,583	27	17,998	16	9,000
Auditor's Transfers.....	1	332	3	243	1	25
Commissioner's Trans's	6	13,376	9	11,850	20	18,150	3	2,200	12	15,880
Tax Title Transfers.....	2	228	5	570	.....	.....	1	19	2	20
Total Transfers.....	832	330,879	434	860,903	463	345,928	434	383,041	571	438,404

TABLE No. XXXIII.—Continued.

Lagrange County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	54	\$15,626	22	\$6,677	6	\$1,571	6	\$2,165	7	\$3,107	6	\$1,837	4	\$2,850	7	\$3,520
Same satisfied.....	6	2,265	3	692	.....	.....	.....	.....	.....	.....	1	600	1	1,000	.....	.....
Balance unsatisfied.....	.....	13,360	.....	5,985	.....	.....	.....	.....	.....	.....	.....	737	.....	1,850	.....	.....
Other Real Est. Mort's.	282	253,800	327	270,600	337	305,000	412	275,000	345	272,500	389	280,000	393	294,000	420	370,000
Same satisfied.....	167	134,684	92	114,484	165	177,329	176	161,493	95	96,840	83	66,045	58	48,313	22	112,417
Balance unsatisfied.....	.....	119,116	.....	156,116	.....	127,671	.....	113,507	.....	175,660	.....	213,955	.....	245,687	.....	257,583
Chattel Mortgages.....	72	20,921	71	17,203	79	20,160	93	18,425	94	19,370	122	25,420	128	35,300	110	27,300
Same satisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mechanic's Liens.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Same satisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total bal. unsatisfied	.....	182,476	.....	162,101	.....	127,671	.....	113,507	.....	175,660	.....	214,692	.....	247,537	.....	257,583
Vol. Real Est. Transfers	410	546,500	430	571,900	392	597,000	456	684,000	418	580,500	487	513,475	445	489,500	610	611,500
Ex. and Adm. Transfers	1	1,400	4	8,470	5	2,390	3	3,836	4	4,196	3	720	11	4,445	10	16,737
Sheriff's Transfers.....	2	1,300	9	15,673	7	4,670	9	12,250	16	13,084	6	5,085	9	15,091	9	14,727
Auditors' Transfers.....	.....	.....	.....	.....	1	1,120	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Commiss'r's Transfers.....	.....	.....	.....	.....	1	1,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tax Title Transfers.....	.....	.....	.....	.....	4	61	2	38	1	9	.....	.....	2	11	2	12
Total Transfers.....	413	549,200	443	596,043	416	603,441	470	700,194	439	579,739	446	519,280	467	509,017	.....	642,976

TABLE No. XXXIII.—Continued.

Lake County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	6	\$1,007	12	\$4,284	8	\$2,514	20	\$5,710	9	\$3,609	9	\$2,110	4	\$850	.....	.....
Same satisfied.....	3	437	5	1,473	.....	.....	1	100	.....	.....	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	670	.....	2,811	.....	2,514	.....	5,610	.....	3,609	.....	2,110	.....	850	.....	.....
Other Real Est. Mort's...	261	277,562	270	298,987	304	276,677	310	282,100	344	282,978	306	256,927	143	95,225	.....	.....
Same satisfied.....	156	144,438	165	175,725	153	127,673	121	110,110	98	60,267	61	51,231	.....	.....	.....	.....
Balance unsatisfied.....	.....	133,124	.....	123,262	.....	149,004	.....	171,990	.....	222,011	.....	204,696	.....	95,225	.....	.....
Chattel Mortgages.....	18	5,727	14	4,157	17	4,985	36	9,727	41	10,671	44	11,692	42	9,616	.....	.....
Same satisfied.....	3	720	3	177	5	430	9	3,650	7	940	10	4,315	2	362	.....	.....
Balance unsatisfied.....	.....	5,007	.....	3,980	.....	4,555	.....	6,077	.....	9,731	.....	7,377	.....	9,254	.....	.....
Mechanics' Liens.....	19	2,836	15	2,274	12	1,107	10	363	10	1,163	19	1,019	2	114	.....	.....
Same satisfied.....	6	915	3	371	2	212	5	232	2	130	2	100	.....	.....	.....	.....
Balance unsatisfied.....	.....	1,921	.....	1,903	.....	895	.....	131	.....	1,033	.....	919	.....	114	.....	.....
Total bal. unsatisfied	.....	140,622	.....	131,956	.....	156,968	.....	183,806	.....	236,384	.....	215,102	.....	105,443	.....	.....
Vol. R. E. Transfers....	696	699,509	846	843,087	773	687,970	625	602,980	583	576,670	462	468,792	250	188,891	.....	.....
Ex. and Adm. Trans....	14	8,740	8	2,467	10	2,965	8	2,479	6	1,850	9	2,990	4	781	.....	.....
Sheriff's Transfers.....	16	15,437	16	35,856	28	22,133	19	18,853	24	23,384	22	71,912	11	13,765	.....	.....
Auditor's Transfers....	8	324	4	738	3	672	8	4,660	4	700	7	420	3	225	.....	.....
Commissioner's Transfers	11	1,351	2	100	6	341	4	1,650	5	1,425	6	640	6	381	.....	.....
Tax Title Transfers....	7	135	8	1,846	18	1,338	14	823	22	2,196	8	242	6	78	.....	.....
Total Transfers.....	752	725,496	894	883,593	838	715,419	678	630,841	644	606,223	514	544,996	280	304,071	.....	.....

TABLE No. XXXIII.—Continued.

Marshall County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	123	\$6,730	72	\$4,367	90	\$33,075	110	\$6,110	12	\$3,875	89	\$4,540	94	\$5,511	36	\$9,500
Same satisfied.....	9	2,325	7	1,770	11	2,963	11	2,806	12	3,172	11	2,675	15	3,903	22	7,603
Balance unsatisfied.....	.....	4,405	.....	2,597	.....	30,112	.....	3,302	.....	303	.....	1,865	.....	2,703	.....	1,897
Other Real Est. Mort's.	376	323,091	401	317,179	425	308,727	346	347,472	496	271,513	426	363,302	479	295,250	434	337,416
Same satisfied.....	45	42,205	104	90,576	103	90,318	197	127,565	180	134,174	170	112,631	251	190,168	454	400,767
Balance unsatisfied.....	.....	283,796	.....	226,303	.....	218,409	.....	219,907	.....	137,344	.....	255,671	.....	105,121	.....	63,341
Chattel Mortgages.....	40	10,996	30	33,403	39	19,335	150	69,473	100	26,509	169	45,493	136	46,123	167	36,563
Same satisfied.....	1	150	9	2,364	14	9,668	39	17,549	28	16,707	30	17,566	44	15,421	42	9,157
Balance unsatisfied.....	.....	10,846	.....	30,519	.....	9,667	.....	51,923	.....	10,802	.....	27,924	.....	30,702	.....	27,409
Mechanics' Liens.....	4	534	2	261	33	3,608	26	2,797	16	2,787	17	1,760	15	631	21	4,386
Same satisfied.....	2	245	1	178	4	331	4	766	7	857	8	523	6	430	.....	.....
Balance unsatisfied.....	.....	309	.....	83	.....	3,277	.....	2,031	.....	1,930	.....	1,238	.....	201	.....	.....
Total bal. unentf.....	.....	299,356	.....	259,492	.....	261,455	.....	277,463	.....	150,279	.....	226,608	.....	138,727	.....	29,306
Vol. Real Est. Trans.	796	353	866	647,653	943	823,532	1,038	977,843	697	543,948	1,779	611,918	313	696,394	1,116	1,037,897
Ex. and Adm. Trans.	4,646	11,282	14	11,282	36	32,499	19	9,241	28	13,893	20	12,165	23	9,837	37	37,545
Sheriffs' Transfers	34,073	11,800	19	11,800	13	6,977	31	19,735	34	27,856	66	51,633	44	28,526	38	37,259
Auditors' Transfers	1,323	663	4	663	6	1,846	3	483	6	1,396	2	785	8	873	6	1,169
Commissioners' Trans.	.....	26,132	7	26,132	9	20,756	5	17,317	6	4,913	6	29,869	4	932	16	.....
Tax Title Transfers.....	.....	551	11	551	9	143	17	486	8	313	16	864	4	72	13	593
Total Transfers.....	501	836,951	921	896,865	1,016	836,803	1,113	1,025,133	738	601,503	1,178	907,136	693	735,896	1,254	1,114,433

TABLE No. XXXIII.—Continued.
Miami County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	17	\$6,624	18	\$5,527 407	12	\$4,053 527	15	\$6,813 300	9	\$1,076 600	13	\$5,988 2,319	7	\$767 3,834	.....	.....
Same satisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Balance unsatisfied .....	.....	6,624	.....	5,120	.....	3,526	.....	6,513	.....	476	.....	3,669	.....	2,567	.....	.....
Other Real Estate Mort	399	363,400	336	320,339	241	245,583	411	383,586	383	357,536	317	322,586	161	159,000	.....	.....
Same satisfied	43	34,000	67	57,000	143	105,700	131	163,800	174	182,700	183	132,500	71	66,800	.....	.....
Balance unsatisfied .....	.....	329,400	.....	263,339	.....	139,883	.....	219,786	.....	174,836	.....	190,086	.....	92,200	.....	.....
Chattel Mortgages.....	49	15,350	54	21,600	99	46,850	112	53,150	176	42,800	114	45,350	64	21,150	.....	.....
Same satisfied.....	4	541	12	5,425	31	8,835	38	17,784	15	7,830	37	6,661	6	965	.....	.....
Balance unsatisfied .....	.....	14,809	.....	16,175	.....	38,015	.....	35,366	.....	34,970	.....	38,689	.....	21,185	.....	.....
Mechanics' Liens	64	7,377	45	5,224	27	2,137	20	2,685	18	1,026	31	3,055	4	338	.....	.....
Same satisfied	13	1,156	16	3,980	14	942	5	392	5	265	7	1,203	9	1,196	.....	.....
Balance unsatisfied .....	.....	6,221	.....	1,244	.....	1,195	.....	2,293	.....	761	.....	1,847	.....	887	.....	.....
Total bal. unsatisfied	.....	357,054	.....	285,929	.....	182,619	.....	263,958	.....	211,043	.....	234,291	.....	109,961	.....	.....
Voluntary R. E. Trans's	487	453,500	800	947,700	597	1,118,563	800	840,600	750	372,293	611	849,100	307	345,500	.....	.....
Exec. and Admin. "	4	1,100	4	24,960	5	7,442	8	1,648	7	713	3	8,624	9	1,278	.....	.....
Sheriffs' Transfers	4	3,526	10	6,286	12	22,132	16	15,636	19	10,719	12	31,023	14	16,560	.....	.....
Auditors' Transfers	1	250	.....	.....	1	130	.....	.....	.....	.....	1	84	1	84	.....	.....
Commissioners' "	9	13,095	8	13,250	3	6,550	5	10,600	14	86,778	7	12,063	1	1,466	.....	.....
Tax Title Transfers	2	95	8	135	4	767	18	535	18	535	2	130	12	87	.....	.....
Total Transfers.....	507	476,566	830	992,310	622	1,231,649	846	869,018	808	471,038	636	901,024	344	3363,965	.....	.....

TABLE No. XXXIII.—Continued

Newton County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	28	\$8,065	14	\$2,985	28	\$11,775	31	\$9,800	21	\$5,229	28	\$9,323	7	\$1,810	25	\$4,946
Same satisfied.....	18	4,893	3	500	7	2,875	8	3,000	4	774	2	906	.....	.....	1	1,000
Balance unsatisfied.....	.....	3,172	.....	2,485	.....	8,900	.....	6,800	.....	4,455	.....	8,418	.....	1,810	.....	8,946
Other B. E. Mortgages..	220	405,273	328	398,736	307	420,420	285	316,985	288	285,993	227	267,029	87	123,409	166	186,661
Same satisfied.....	135	191,323	186	199,306	172	189,925	94	725,582	50	38,822	14	16,790	.....	.....	39	42,875
Balance unsatisfied.....	.....	213,950	.....	194,430	.....	230,495	.....	*408,597	.....	247,671	.....	250,239	.....	123,409	.....	143,776
Chattel Mortgages.....	44	2,778	58	13,705	78	18,849	163	54,710	197	82,383	234	78,901	115	26,578	164	36,770
Same satisfied.....	10	2,778	5	1,813	11	5,553	17	5,029	15	4,295	9	3,465	1	2,000	9	2,669
Balance unsatisfied.....	.....	.....	.....	11,892	.....	13,296	.....	49,681	.....	78,088	.....	75,436	.....	24,578	.....	35,101
Mechanics' Liens.....	6	1,141	7	960	35	5,063	15	1,872	16	1,798	5	330	.....	.....	.....	.....
Same satisfied.....	3	560	2	58	22	4,140	7	768	8	1,049	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	581	.....	902	.....	928	.....	1,104	.....	749	.....	830	.....	.....	.....	.....
Total bal. unsatisfied	.....	217,708	.....	209,709	.....	253,614	.....	*351,012	.....	330,963	.....	334,423	.....	149,797	.....	182,823
Voluntary B. E. Trans..	473	497,159	549	760,807	710	776,533	533	577,965	457	762,409	351	438,097	165	217,408	415	286,756
Ex'rs and Adm'rs ' ' ..	2	1,042	6	7,373	4	5,173	2	800	2	2,150	1	160	.....	.....	12	.....
Sheriffs' Transfers.....	13	10,292	16	6,868	19	33,980	17	7,023	20	21,580	35	52,317	.....	.....	43	35,184
Auditors' Transfers.....	3	1,100	6	1,812	29	10,150	19	3,063	1	240	2	609	.....	.....	1	600
Commissioners' ' ' ..	3	1,356	5	2,277	4	9,440	7	8,837	12	6,252	11	8,490	.....	.....	7	.....
Tax Title Transfers.....	16	515	9	301	41	880	18	424	26	904	19	359	4	347	15	665
Total Transfers.....	510	511,464	591	779,438	807	836,156	596	593,112	518	793,535	449	500,022	188	247,224	493	323,105

TABLE No. XXXIII.—Continued.

Perry County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	18	\$3,860	24	\$8,647	22	\$4,025	38	\$8,120	36	\$7,651	28	\$5,662	36	\$5,877	18	\$3,625
Same satisfied.....	10	2,900	13	2,850	6	1,440	4	950	2	860	1	525	.....	.....	.....	.....
Balance unsatisfied.....	.....	960	.....	5,797	.....	2,585	.....	7,170	.....	6,791	.....	5,137	.....	.....	.....	.....
Other Real Est. Mort's.	98	37,578	108	53,400	141	91,842	174	91,103	175	57,494	141	48,272	157	77,250	94	16,263
Same satisfied.....	64	25,197	80	25,860	66	35,964	48	21,930	119	19,069	35	9,000	60	39,690	1	200
Balance unsatisfied.....	.....	12,381	.....	27,540	.....	55,878	.....	69,173	.....	38,425	.....	39,272	.....	37,560	.....	16,063
Chattel Mortgages.....	40	2,208	28	4,414	73	9,324	80	10,117	64	8,000	70	7,852	45	6,000	18	1,025
Same satisfied.....	4	200	5	1,740	7	2,000	10	4,000	8	2,133	6	3,109	2	300	1	100
Balance unsatisfied.....	.....	2,008	.....	2,674	.....	7,324	.....	6,117	.....	5,869	.....	4,743	.....	5,700	.....	925
Mechanics' Liens.....	18	1,516	10	832	9	664	7	282	5	209	5	195	2	400	Remarkable.	
Same satisfied.....	18	1,516	10	832	9	664	7	282	5	209	5	195	2	400	.....	.....
Balance unsatisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total bal. unsatisfied	.....	15,349	.....	36,011	.....	65,787	.....	82,460	.....	61,085	.....	49,152	.....	43,260	.....	16,988
Vol. R. Est. Transfers..	370	74,000	350	68,750	400	82,910	300	67,498	302	72,840	321	59,211	304	60,422	200	49,853
Ex. and Adm. Transfers..	7	2,509	4	900	12	5,201	8	2,029	3	873	4	1,239	4	700	2	2,100
Sheriff's Transfers.....	23	10,079	8	1,600	9	1,200	23	10,800	16	8,375	17	7,340	10	8,910	9	3,904
Auditor's Transfers.....	3	823	2	363	.....	.....	1	128	1	573	2	496	8	520	5	700
Commis'n'r's Transfers..	5	1,945	4	963	9	3,000	11	5,239	6	1,100	8	2,299	3	784	.....	.....
Tax Title Transfers.....	73	335	48	210	61	427	23	188	35	280	30	240	27	401	29	216
Total Transfers.....	480	90,091	416	72,776	491	92,788	365	85,358	363	83,541	382	70,825	351	71,737	245	55,378

TABLE No. XXXIII.—Continued.

Pike County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	12	\$3,400	7	\$2,025	19	\$3,352	17	\$3,667	17	\$2,957	12	\$2,390	8	\$875	.....	.....
Same satisfied.....	4	940	1	150	1	61	.....	.....	.....	.....	1	100	.....	.....	.....	.....
Balance unsatisfied.....	.....	2,460	.....	1,875	.....	3,288	.....	3,667	.....	2,957	.....	2,290	.....	875	.....	.....
Other Real Estate Mort.	185	111,933	180	130,756	216	116,510	188	108,796	248	167,189	201	98,537	103	44,424	.....	.....
Same satisfied.....	77	61,689	69	43,237	85	48,799	48	28,852	54	28,335	28	14,713	4	1,432	.....	.....
Balance unsatisfied.....	.....	57,244	.....	87,519	.....	67,711	.....	79,943	.....	138,851	.....	83,824	.....	42,992	.....	.....
Chattel Mortgages.....	39	8,006	50	24,852	89	20,188	88	14,009	106	40,650	113	32,464	62	4,474	.....	.....
Same satisfied.....	2	705	8	2,584	6	1,030	6	577	13	3,230	19	7,478	3	130	.....	.....
Balance unsatisfied.....	.....	7,301	.....	91,768	.....	19,158	.....	18,432	.....	37,420	.....	24,976	.....	4,344	.....	.....
Mechanics' Liens.....	5	822	2	751	1	50	1	336	.....	.....	3	908	.....	.....	.....	.....
Same satisfied.....	5	822	1	41	1	50	1	336	.....	.....	3	908	.....	.....	.....	.....
Balance unsatisfied.....	.....	.....	.....	710	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total bal. unsatisfied.....	.....	67,005	.....	111,872	.....	90,167	.....	97,042	.....	179,231	.....	111,090	.....	48,211	.....	.....
Voluntary R.E. Trans..	711	268,547	675	288,869	673	471,097	510	263,624	714	304,238	587	278,967	272	116,670	.....	.....
Ex. and Adm. Trans's..	.....	.....	1	870	1	600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sheriff's Transfers.....	7	6,035	17	10,762	23	6,023	20	10,860	21	7,588	38	16,195	12	11,171	.....	.....
Auditor's Transfers.....	4	625	2	41	5	522	2	187	.....	.....	1	475	1	285	.....	.....
Commissioner's Trans's	1	127	7	3,846	4	2,361	7	2,151	2	1,984	4	1,320	1	400	.....	.....
Tax Title Transfers.....	4	125	.....	.....	.....	.....	.....	.....	6	80	7	125	3	56	.....	.....
Total Transfers.....	727	275,459	702	808,388	706	480,598	539	276,822	743	313,890	635	297,092	289	128,582	.....	.....

TABLE No. XXXIII.—Continued.

Porter County.

[illegible]

TABLE No. XXXIII.—Continued.

Pulaski County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	9	\$1,470	9	\$1,893	13	\$2,108	10	\$1,968	10	\$1,908	30	\$4,845	17	\$3,400	28	\$5,367
Same satisfied.....	5	1,188	2	566	2	500	6	950	1	150	4	450	.....	.....	15	300
Balance unsatisfied.....	.....	282	.....	1,327	.....	1,608	.....	1,016	.....	1,756	.....	4,395	.....	.....	.....	5,067
Other Real Estate Mort	217	65,100	241	72,300	238	71,400	237	94,800	248	74,400	226	69,800	105	81,500	227	67,000
Same satisfied.....	161	39,300	180	54,300	153	54,900	112	44,600	95	39,000	61	18,300	25	6,500	159	47,300
Balance unsatisfied.....	.....	25,800	.....	18,000	.....	16,500	.....	50,200	.....	54,400	.....	51,500	.....	25,000	.....	19,700
Chattel Mortgages.....	8	1,600	10	2,000	20	3,345	25	7,000	24	4,800	25	9,000	18	7,600	43	9,900
Same satisfied.....	8	1,600	10	2,000	16	3,000	18	3,600	11	2,900	9	1,800	5	1,000	15	3,100
Balance unsatisfied.....	.....	.....	.....	.....	.....	345	.....	4,400	.....	2,600	.....	7,200	.....	6,600	.....	6,800
Mechanics' Liens.....	.....	.....	.....	.....	1	102	3	515	4	328	2	475	.....	.....	4	348
Same satisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	75	.....	.....	1	435
Balance unsatisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	400	.....	.....	.....	87
Total bal. unsatisfied	.....	26,082	.....	19,327	.....	18,553	.....	55,616	.....	39,756	.....	63,495	.....	31,600	.....	31,567
Voluntary R.E Trans's	722	316,000	786	393,000	558	279,000	600	354,000	850	403,000	700	417,000	400	206,500	541	280,200
Exec.and Admin. "	4	1,600	3	1,200	8	3,200	6	3,000	9	4,000	7	2,700	5	1,500	17	8,000
Sheriffs' Transfers.....	13	3,900	10	4,000	20	7,000	16	6,220	25	7,500	23	7,000	12	4,500	18	7,800
Auditors' Transfers.....	6	1,200	8	2,200	7	1,760	10	3,000	4	1,000	11	3,500	2	1,000	2	1,200
Commissioners' "	5	1,500	2	600	7	1,400	10	4,000	6	2,000	11	4,000	3	1,200	2	800
Tax Title Transfers.....	3	60	78	200	68	816	79	850	23	230	21	185	15	100	15	125
Total Transfers.....	753	324,260	887	401,200	668	298,166	720	371,070	917	417,780	772	434,885	437	213,800	596	298,125

TABLE No. XXXIII.—Continued.

Scott County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	15	\$3,175	10	\$1,788	6	\$580	4	\$773	12	\$2,061	5	\$800	.....	.....	2	\$558
Same satisfied.....	None.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	392
Balance unsatisfied.....	.....	3,175	.....	1,788	.....	580	.....	773	.....	2,061	.....	800	.....	.....	.....	168
Other Real Estate Mort	70	31,543	86	51,271	88	42,780	51	28,880	83	37,848	71	23,232	32	\$9,694	97	38,060
Same satisfied.....	84	13,361	24	12,831	25	11,120	6	9,127	19	7,021	8	2,191	1	125	51	29,515
Balance unsatisfied.....	.....	18,182	.....	38,440	.....	31,660	.....	19,753	.....	30,827	.....	21,041	.....	9,569	.....	8,545
Chattel Mortgages.....	14	2,929	17	6,304	20	5,684	10	4,654	16	11,147	11	3,674	4	1,235	19	4,287
Same satisfied.....	4	1,185	2	1,560	6	2,986	2	2,590	4	4,171	.....	.....	2	130	2	175
Balance unsatisfied.....	.....	1,744	.....	4,744	.....	2,698	.....	2,064	.....	6,976	.....	8,674	.....	1,105	.....	4,112
Mechanics' Liens.....	.....	.....	14	871	9	674	.....	.....	1	39	.....	.....	.....	.....	.....	.....
Same satisfied.....	.....	.....	7	672	6	560	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	.....	.....	199	.....	114	.....	.....	.....	39	.....	.....	.....	.....	.....	.....
Total bal. unsatisfied	.....	23,101	.....	45,171	.....	35,053	.....	22,590	.....	39,903	.....	25,515	.....	10,674	.....	12,823
Voluntary B. E. Trans..	337	198,650	333	214,167	338	\$257,217	272	245,747	285	303,603	207	81,576	104	\$48,084	275	180,694
Ex. and Adm. Trans....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	3,631
Sheriffs' Transfers.....	6	1,088	3	9,914	5	1,435	10	7,238	12	8,218	.....	8,849	4	1,792	13	10,128
Auditors' Transfers.....	.....	.....	.....	.....	.....	.....	1	400	1	300	.....	.....	.....	.....	.....	.....
Commissioners' Trans's	.....	.....	1	500	1	2,200	1	294	.....	.....	.....	.....	.....	.....	1	100
Tax Title Transfers.....	6	27	3	6	4	70	5	79	7	513	4	30	3	31	8	70
Total Transfers.....	349	199,765	339	224,587	348	260,922	289	253,748	305	212,634	280	90,455	111	49,907	299	194,638

TABLE No. XXXIII.—Continued.

Stark County.

Classification of Records.	1872-73.		1873-74.		1874-75		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	10	\$1,540	4	\$380	7	\$1,500	11	\$1,578	3	\$432	8	\$1,020	5	\$480	6	\$650
Same satisfied.....	1	100	.....	.....	1	350	4	800	.....	.....	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	1,440	.....	.....	.....	1,160	.....	1,278	.....	.....	.....	.....	.....	.....	.....	.....
Other Real Est. Mort's.	86	31,445	111	50,254	127	54,600	127	48,128	151	73,969	119	47,848	77	27,499	51	22,647
Same satisfied.....	49	17,558	48	20,987	63	21,169	57	22,575	42	23,197	58	28,331	25	20,800	1	182
Balance unsatisfied.....	.....	13,887	.....	29,267	.....	33,441	.....	25,553	.....	50,762	.....	19,017	.....	6,699	.....	22,465
Chattel Mortgages.....	17	4,901	18	3,888	26	5,610	22	3,600	18	1,810	14	2,500	17	3,202	12	2,020
Same satisfied.....	2	600	5	1,292	2	112	.....	.....	1	45	1	150	2	122	.....	.....
Balance unsatisfied.....	.....	4,301	.....	2,596	.....	6,498	.....	.....	.....	1,765	.....	2,440	.....	3,080	.....	.....
Mechanics' Liens .....	.....	.....	.....	.....	5	811	2	257	4	81	2	86	1	75	.....	.....
Same satisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	1	42	.....	.....	1	75	.....	.....
Balance unsatisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39	.....	.....	.....	.....	.....	.....
Total bal. unsatisfied	.....	19,628	.....	31,863	.....	40,089	.....	26,831	.....	52,566	.....	21,457	.....	9,779	.....	22,465
Vol. Real Est. Transfers	380	286,097	304	274,747	460	393,024	400	289,964	402	313,601	347	241,617	285	254,617	150	120,700
Ex. and Adm. Transfers	6	2,300	7	2,500	7	2,400	4	1,580	4	1,520	6	2,100	3	1,200	5	1,876
Sheriffs' Transfers	12	3,200	20	4,100	16	1,900	18	2,620	20	3,180	26	3,450	24	2,880	24	6,135
Auditors' Transfers.....	1	400	.....	.....	1	475	3	1,050	1	300	1	425	.....	.....	.....	.....
Commls'n'rs' Transfers	.....	.....	6	1,980	5	1,683	1	300	4	950	.....	.....	1	400	3	1,000
Tax Title Transfers.....	2	121	11	496	16	324	20	650	63	2,191	34	598	23	390	18	422
Total Transfers	401	292,118	348	283,823	505	399,806	446	296,034	494	321,743	414	347,990	336	259,487	200	130,132

TABLE No. XXXIII.—Continued.

Steuben County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	17	\$3,400	16	\$3,300	14	\$2,500	16	\$3,200	12	\$2,100	18	\$3,500	16	\$3,200	21	\$5,000
Same satisfied.....	10	2,000	9	1,800	11	2,300	11	2,200	12	2,300	14	2,700	17	3,500	10	2,500
Balance unsatisfied.....	.....	1,400	.....	1,500	.....	200	.....	1,000	.....	*200	.....	800	.....	*300	.....	2,500
Other Real Est. Mort's.	400	120,000	420	121,000	410	130,000	430	132,000	390	116,000	385	115,000	300	90,000	400	120,000
Same satisfied.....	360	100,000	365	110,000	400	121,000	417	130,000	420	135,000	425	140,000	431	145,000	300	120,000
Balance unsatisfied.....	.....	20,000	.....	11,000	.....	9,000	.....	2,000	.....	*19,000	.....	*25,000	.....	*55,000	.....	.....
Chattel Mortgages.....	20	2,000	40	5,000	70	14,000	75	16,000	65	14,000	61	13,000	68	11,000	100	10,000
Same satisfied.....	13	1,300	15	1,700	20	2,100	25	2,300	31	2,900	39	4,000	41	4,200	50	5,000
Balance unsatisfied.....	.....	700	.....	3,300	.....	11,900	.....	12,700	.....	11,100	.....	9,000	.....	6,800	.....	5,000
Mechanics' Liens.....	20	1,000	15	800	13	700	12	600	9	400	7	300	4	200	8	400
Same satisfied.....	16	700	13	650	11	500	8	500	7	350	3	200	2	150	2	100
Balance unsatisfied.....	.....	300	.....	150	.....	200	.....	100	.....	50	.....	100	.....	50	.....	300
Total bal. unsatisfied	.....	22,400	.....	15,590	.....	21,300	.....	15,800	.....	*8,050	.....	*15,100	.....	*48,450	.....	7,800
Vol. Real Est. Transfers	520	208,000	540	210,000	490	198,000	475	178,000	500	200,000	455	175,000	516	201,000	600	232,500
Ex. and Adm. Transfers	10	3,000	8	2,100	11	3,100	7	2,000	9	2,800	10	3,000	7	2,300	10	3,500
Sheriffs' Transfers.....	6	3,000	8	3,500	12	4,800	17	5,500	19	6,000	21	6,300	26	9,000	30	10,000
Auditors' Transfers....	10	1,100	14	1,150	19	1,200	20	1,250	21	1,350	27	1,300	18	1,200	10	600
Commis'n's Transfers	2	1,000	1	600	3	1,200	2	700	4	1,700	3	1,100	1	700	3	2,100
Tax Title Transfers.....	5	50	6	70	10	110	13	115	13	120	15	160	19	210	18	250
Total Transfers.....	553	216,150	537	217,420	545	206,410	533	187,565	566	211,880	531	186,860	537	214,410	666	248,960

TABLE No, XXXIII.—Continued.

Switzerland County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages	17	\$2,800	3	\$530	9	\$1,160	4	\$865	3	\$285	13	\$2,620	11	\$3,625
Same satisfied.....	980	.....	1,320	.....	.....	9	3,550
Balance unsatisfied.....	2,800	.....	530	.....	1,160	.....	*115	.....	*1,035	.....	2,620	.....	75
Other Real Est. Mort's..	166	\$74,100	194	81,000	193	79,400	200	79,600	197	93,350	207	97,600	163	100,765	161	92,865
Same satisfied.....	7,620	.....	3,420	.....	725	.....	2,175	.....	13,600	.....	9,400	.....	11,720	.....	.....
Balance unsatisfied....	66,480	.....	77,580	.....	78,675	.....	77,425	.....	79,750	.....	88,200	.....	89,045	.....	.....
Chattel Mortgages.....	39	3,910	31	2,920	10	2,950	21	4,625	7	1,490	2	820	11	2,100	52	10,400
Same satisfied.....	600	.....	1,900	.....	1,100	.....	2,160	.....	700	.....	.....	.....	2,000	.....	.....
Balance unsatisfied.....	3,310	.....	1,020	.....	1,850	.....	2,465	.....	790	.....	820	.....	100	.....	.....
Mechanics' Liens.....	280	.....	1,300	.....	.....	.....	400	.....	.....	2	98
Same satisfied.....	280	.....	1,300	.....	.....	.....	400	.....	.....	.....	.....
Balance unsatisfied.....
Total bal. unsatisfied	69,790	.....	81,400	.....	81,055	.....	81,050	.....	80,425	.....	87,985	.....	91,765	.....	75
Vol. Real Est. Transfers	136,000	.....	194,000	.....	121,000	.....	96,000	.....	87,500	.....	101,750	.....	121,760	300	197,700
Ex. and Adam. Trans's.	19,500	.....	21,600	.....	18,700	.....	9,400	.....	.....	.....	13,000	.....	7,500	8	5,960
Sheriffs' Transfers	6,500	.....	9,400	.....	4,675	.....	5,920	.....	23,625	.....	37,680	.....	29,400	23	15,157
Auditors' Transfers.....	300	.....	1,100	.....	1,300	.....	1,900	.....	2,100	.....	1,700	.....	700	1	660
Commiss'nr's Transfers	13,700	.....	19,200	.....	17,900	.....	21,760	.....	21,640	.....	19,600	.....	14,000	9	5,831
Tax Title Transfers	800	.....	.....	.....	120	.....	185	.....	.....	.....	.....	.....	60	.....	.....
Total Transfers	176,300	.....	245,300	.....	163,695	.....	135,165	.....	134,865	.....	173,780	.....	173,420	841	225,298

TABLE No. XXXIII.—Continued.
Tipton County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	17	\$4,395	29	\$6,876	29	\$6,865	41	\$14,932	41	\$11,088	23	\$5,083	20	\$6,965	.....	.....
Same satisfied.....	13	2,846	17	4,270	9	1,745	8	1,590	6	1,650	13	670	4	1,400	.....	.....
Balance unsatisfied.....	.....	1,550	.....	2,605	.....	5,120	.....	13,342	.....	9,488	.....	4,418	.....	5,565	.....	.....
Other Real Est. Mort's	308	195,287	311	210,790	315	222,860	154	151,216	238	143,932	183	117,639	284	111,991	.....	.....
Same satisfied.....	223	133,777	194	162,508	229	128,035	137	76,049	70	59,149	68	44,104	53	23,150	.....	.....
Balance unsatisfied....	.....	61,510	.....	48,282	.....	94,825	...	75,167	.....	84,783	.....	78,535	.....	88,841	.....	.....
Chattel Mortgages.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Same satisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mechanics' Liens.....	10	997	14	1,049	24	1,730	29	5,086	18	1,779	16	713	13	502	.....	.....
Same satisfied.....	10	362	4	438	7	429	16	2,130	5	28	7	850	6	321	.....	.....
Balance unsatisfied.....	.....	635	.....	611	.....	1,301	.....	2,956	.....	1,756	.....	137	.....	181	.....	.....
Total bal. unsatisfied	.....	63,695	.....	51,498	.....	101,246	.....	91,465	.....	95,977	.....	77,811	.....	94,587	.....	.....
Vol. Real Est. Transfers	589	478,948	716	754,850	883	748,148	722	771,923	554	508,744	601	383,053	699	397,942	.....	.....
Ex. and Adm. Transfers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sheriffs' Transfers.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Auditors' Transfers.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Commissioner's Transfers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tax Title Transfers.....	2	8	2	95	5	28	11	612	.....	.....	15	1,712	8	372	.....	.....
Total Transfers.....	591	478,956	718	754,945	888	748,171	733	772,535	554	508,744	616	384,765	707	398,314	.....	.....

TABLE No. XXXIII.—Continued.

Union County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	14	\$5,213	33	\$13,889	22	\$11,476	23	\$12,461	9	\$5,350	10	\$6,214	8	\$4,833	12	\$5,035
Same Satisfied.....	23	7,394	39	13,167	24	8,944	11	4,499	7	4,814	21	9,006	17	6,757	10	5,493
Balance unsatisfied.....	.....	*2,181	.....	722	.....	2,532	.....	7,962	.....	536	.....	*2,792	.....	*2,424	.....	*458
Other Real Est. Mort's.	100	104,562	127	198,229	154	219,257	148	250,438	136	168,191	200	247,392	187	180,396	141	174,465
Same satisfied.....	57	85,216	75	116,890	91	154,010	85	143,970	71	161,196	96	155,616	101	160,237	157	214,291
Balance unsatisfied.....	.....	19,347	.....	81,339	.....	65,247	.....	106,459	.....	6,995	.....	91,776	.....	20,169	.....	*99,836
Chattel Mortgages.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Same satisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mechanics' Liens.....	4	286	4	192	2	63	4	785	11	1,144	14	1,880	7	639	10	699
Same satisfied.....	1	17	2	174	.....	.....	1	35	2	144	3	611	1	31	4	638
Balance unsatisfied.....	.....	219	.....	*42	.....	.....	.....	750	.....	1,000	.....	1,269	.....	608	.....	61
Total bal. unsatisfied	.....	17,385	.....	82,019	.....	67,779	.....	114,171	.....	8,531	.....	90,253	.....	18,353	.....	*40,233
Vol. Real Est. Transfers	200	318,804	197	397,048	195	348,751	233	386,821	151	233,049	201	391,017	164	278,033	201	261,830
Ex. and Adm. Transfers	4	8,973	8	14,116	11	14,940	11	20,792	9	8,837	15	35,492	18	18,991	8	11,952
Sheriffs' Transfers.....	2	3,249	8	10,140	8	8,634	1	60	6	2,225	12	33,426	24	27,842	18	36,535
Auditors' Transfers.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1,040
Commis'n's Transfers.....	.....	.....	4	4,021	3	7,429	6	9,343	2	3,620	3	923	1	1,128	3	9,618
Tax Title Transfers.....	.....	.....	1	600	1	55	.....	.....	.....	.....	2	142	1	20	1	4
Total Transfers.....	206	325,026	218	425,925	218	379,809	251	419,016	168	247,731	233	461,000	208	326,014	224	320,979

TABLE No. XXXIII.—Continued.

Vermillion County.

Classification of Records.	1872-73		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	35	\$13,980	6	\$2,315	12	\$4,429	15	\$7,833	15	\$7,165	13	\$4,960	14	\$4,922	22	\$11,395
Same satisfied.....	20	8,595	6	2,645	10	2,916	12	3,949	7	1,600	10	3,595	12	3,555	22	9,921
Balance unsatisfied.....	.....	5,385	.....	*850	.....	1,513	.....	3,884	.....	5,565	.....	1,365	.....	1,367	.....	1,474
Other Real Est. Mort's	81	129,028	74	88,879	16	110,593	104	174,479	104	118,876	90	108,310	107	102,817	108	77,752
Same satisfied.....	26	19,068	36	45,866	33	34,450	51	65,119	49	59,789	42	37,299	61	69,801	54	38,876
Balance unsatisfied.....	.....	109,960	.....	43,014	.....	76,143	.....	109,360	.....	59,087	.....	71,081	.....	40,016	.....	38,876
Chattel Mortgages.....	39	12,540	42	32,840	61	24,968	77	36,350	84	28,045	82	26,998	83	57,512	83	31,410
Same satisfied.....	2	126	6	3,641	7	733	16	9,755	10	1,142	11	3,920	22	5,404	10	3,875
Balance unsatisfied.....	.....	12,414	.....	29,199	.....	24,235	.....	26,595	.....	26,903	.....	23,078	.....	52,108	.....	27,535
Mechanic's Liens.....	7	870	2	13,224	3	830	3	341	9	467	4	337	3	58	3	362
Same satisfied.....	.....	.....	.....	.....	.....	.....	1	106	1	219	4	356	1	16	1	16
Balance unsatisfied.....	.....	870	.....	13,224	.....	330	.....	235	.....	248	.....	*19	.....	42	.....	346
Total bal. unsatisfied	.....	128,629	.....	85,087	.....	102,221	.....	140,074	.....	91,803	.....	95,505	.....	93,533	.....	69,231
Vol. Real Est. Transfers	307	300,785	364	331,128	401	320,636	409	340,365	387	873,423	330	305,160	311	209,067	378	294,572
Ex. and Adm. Transfers	.....	.....	.....	.....	3	9,680	1	2,580	2	838	.....	.....	.....	.....	24	21,197
Sheriff's Transfers.....	1	167	4	4,881	3	2,143	6	3,105	10	6,699	14	22,838	9	8,394	12	7,613
Auditor's Transfers.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	500	.....	.....	.....	.....
Commiss'r's Transfers	2	630	4	878	1	325	1	575	.....	.....	2	4,820	1	1,604	2	1,143
Tax Title Transfers.....	4	296	.....	.....	1	6	7	163	9	134	6	288	6	44	2	88
Total Transfers.....	314	301,878	373	336,887	409	332,690	424	346,706	406	381,093	353	333,596	337	214,109	413	\$324,607

TABLE No. XXXIII.—Continued.

Wabash County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	34	\$9,149	41	\$12,140	82	\$9,125	24	\$7,941	39	\$11,895	.....	\$31,293	22	\$8,490	.....	.....
Same satisfied.....	27	8,172	21	5,679	7	2,050	10	3,228	5	1,268	1	200	.....	.....	.....	.....
Balance unsatisfied.....	.....	977	.....	6,461	.....	7,075	.....	4,713	.....	10,077	.....	31,093	.....	8,490	.....	.....
Other Real Est. Mort's	368	865,047	434	393,498	457	431,795	372	325,581	491	359,577	771	536,934	187	146,183	.....	.....
Same satisfied.....	345	317,340	380	332,867	333	337,023	250	201,322	304	201,944	372	232,938	27	19,608	.....	.....
Balance unsatisfied.....	.....	47,707	.....	60,662	.....	94,772	.....	124,259	.....	157,633	.....	303,996	.....	126,475	.....	.....
Chattel Mortgages.....	84	30,895	100	24,165	178	58,475	170	51,965	223	55,600	205	59,760	70	29,580	.....	.....
Same satisfied.....	15	10,509	21	5,876	44	18,690	36	9,850	35	7,670	36	7,280	14	2,465	.....	.....
Balance unsatisfied.....	.....	20,386	.....	18,289	.....	39,785	.....	42,116	.....	47,930	.....	62,480	.....	27,115	.....	.....
Mechanic's Liens.....	11	1,049	8	722	16	903	19	2,125	24	1,941	4	572	6	7,555	.....	.....
Same satisfied.....	4	203	2	60	2	107	7	802	7	612	2	445	3	6,848	.....	.....
Balance unsatisfied.....	.....	846	.....	662	.....	796	.....	1,323	.....	1,329	.....	127	.....	707	.....	.....
Total bal. unsatisfied	.....	69,916	.....	86,034	.....	142,428	.....	172,410	.....	216,969	.....	387,696	.....	162,787	.....	.....
Vol. Real Est. Transfers	899	947,400	814	848,500	988	1,045,400	762	865,100	827	947,800	794	934,300	285	389,800	.....	.....
Ex. and Adm. Transfers	15	9,900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sheriffs' Transfers.....	9	9,800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Auditors' Transfers.....	.....	.....	1	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Commis'ns' Transfers.	11	11,000	1	800	4	10,400	2	12,700	1	300	.....	.....	.....	.....	.....	.....
Tax Title Transfers.....	6	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Transfers.....	940	978,113	816	849,400	992	1,055,800	764	877,500	828	948,100	794	934,300	285	389,800	.....	.....

TABLE No. XXXIII.—Continued.

Wells County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	20	\$5,625	33	\$8,605	33	\$9,240	31	\$8,108	15	\$4,270	32	\$9,429	27	\$8,358	.....	.....
Same satisfied.....	13	3,600	19	4,345	28	6,900	19	5,149	14	2,840	47	1,100	25	5,808	.....	.....
Balance unsatisfied.....	.....	2,025	.....	4,260	.....	2,340	.....	2,959	.....	1,430	.....	8,329	.....	550	.....	.....
Other Real Est. Mort'a.....	150	119,033	263	228,233	255	239,872	239	203,409	235	209,409	228	163,101	125	66,919	.....	.....
Same satisfied.....	73	44,392	145	101,966	176	143,926	130	117,853	143	99,078	161	133,118	71	53,451	.....	.....
Balance unsatisfied.....	.....	74,641	.....	126,267	.....	95,946	.....	85,606	.....	110,331	.....	29,983	.....	13,468	.....	.....
Chattel Mortgages.....	6	1,560	24	21,183	22	12,280	36	7,525	48	8,791	62	20,184	33	7,488	.....	.....
Same satisfied.....	4	567	2	316	3	2,860	13	7,666	12	4,028	18	5,945	5	1,667	.....	.....
Balance unsatisfied.....	.....	993	.....	20,842	.....	9,420	.....	141	.....	4,763	.....	14,239	.....	5,821	.....	.....
Mechanics' Liens.....	2	264	6	368	6	109	8	221	2	100	6	205	8	442	.....	.....
Same satisfied.....	.....	.....	1	13	.....	.....	3	55	.....	.....	.....	.....	1	19	.....	.....
Balance unsatisfied.....	.....	264	.....	355	.....	109	.....	166	.....	100	.....	205	.....	423	.....	.....
Total bal. unsatisfied	.....	77,923	.....	151,724	.....	107,815	.....	88,590	.....	116,624	.....	52,766	.....	20,262	.....	.....
Vol. R. E. Transfers.....	349	343,955	622	674,107	614	592,552	472	504,749	448	472,451	453	404,086	184	155,383	.....	.....
Ex. and Adm. Trans.....	1	2,300	5	3,470	6	14,825	.....	.....	4	5,104	12	10,544	5	1,700	.....	.....
Sheriff's Transfers.....	1	165	5	5,860	4	1,883	7	5,285	8	7,306	23	14,654	13	7,944	.....	.....
Auditor's Transfers.....	.....	.....	3	380	5	1,265	1	1,944	1	450	3	1,007	.....	.....	.....	.....
Commiss'ner's Transfers.....	3	9,145	.....	.....	9	17,075	5	4,846	8	12,237	3	2,966	.....	.....	.....	.....
Tax Title Transfers.....	.....	.....	.....	.....	.....	.....	3	91	6	106	20	473	14	350	.....	.....
Total Transfers.....	354	355,565	635	683,817	636	727,600	404	516,886	475	497,634	614	433,760	216	165,377	.....	.....

TABLE No. XXXIII.—Continued.

White County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	39	\$14,140	38	\$11,728	12	\$3,806	20	\$6,003	32	\$3,916	18	\$4,993	42	\$12,393	.....	.....
Same satisfied.....	16	6,554	13	3,276	2	525	3	1,040	18	6,306	11	3,486	4	876	.....	.....
Balance unsatisfied.....	.....	7,586	.....	8,452	.....	3,281	.....	4,963	.....	2,610	.....	1,507	.....	11,518	.....	.....
Other R. E. Mortgages.	273	256,629	302	317,786	407	431,310	323	326,342	306	286,491	228	180,278	105	96,259	.....	.....
Same satisfied.....	120	151,031	189	179,576	179	146,505	131	130,359	80	61,394	34	15,807	3	2,900	.....	.....
Balance unsatisfied..	.....	105,598	.....	138,210	.....	284,805	.....	195,983	.....	225,097	.....	164,471	.....	93,359	.....	.....
Chattel Mortgages.....	32	35,383	35	28,016	43	18,540	127	56,666	104	57,506	111	42,866	60	18,153	.....	.....
Same satisfied.....	7	3,988	9	10,943	11	4,638	16	9,013	18	13,865	18	16,335	4	421	.....	.....
Balance unsatisfied .....	.....	31,445	.....	17,073	.....	13,907	.....	47,653	.....	43,641	.....	26,531	.....	17,737	.....	.....
Mechanics' Liens.....	3	80	1	833	7	764	8	2,430	12	1,256	2	70	1	42	.....	.....
Same satisfied.....	.....	.....	.....	.....	.....	.....	2	332	6	775	.....	.....	.....	.....	.....	.....
Balance unsatisfied.....	.....	80	.....	832	.....	764	.....	2,098	.....	481	.....	70	.....	42	.....	.....
Total bal. unsatisfied	.....	144,709	.....	164,567	.....	392,757	.....	250,697	.....	271,829	.....	192,579	.....	122,656	.....	.....
Voluntary R. E. Trans.	723	782,470	736	881,227	957	1,059,629	631	992,893	751	849,162	816	916,842	394	386,742	.....	.....
Ex'rs and Adm'rs ..	17	31,110	5	2,848	13	9,956	13	9,173	20	4,801	39	11,316	25	8,206	.....	.....
Sheriffs' Transfers.....	21	14,280	20	11,353	30	10,378	24	30,296	54	30,667	103	59,673	34	28,397	.....	.....
Auditors' Transfers...	1	40	7	736	4	1,725	5	1,701	19	4,134	22	5,833	5	1,896	.....	.....
Commissioners' ..	22	21,745	21	3,631	17	6,618	11	2,061	34	12,273	49	15,783	22	9,651	.....	.....
Tax Title Transfers.....	5	125	6	86	8	201	13	531	32	1,948	18	820	3	135	.....	.....
Total Transfers.....	789	849,770	795	899,931	1,029	1,088,506	747	1,036,154	910	902,085	1,047	1,010,267	483	435,026	.....	.....

TABLE No. XXXIII.—Continued.

Whitley County.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		1879-80.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	38	\$5,820	39	\$5,763	36	\$5,819	52	\$6,317	54	9,874	47	\$7,896	30	\$4,654	40	\$7,078
Same satisfied.....	33	4,965	25	2,289	32	5,499	9	1,545	7	1,035	4	732	3	500	35	6,002
Balance unsatisfied....	.....	855	.....	3,474	.....	320	.....	6,772	.....	8,839	.....	7,164	.....	4,154	.....	1,076
Other Real Est. Mort's.	84	77,244	107	83,237	177	160,848	170	134,930	160	120,952	179	122,478	200	127,449	279	193,663
Same satisfied.....	24	12,366	164	127,690	198	172,099	198	127,429	157	122,308	234	172,802	172	152,105	251	216,042
Balance unsatisfied.....	.....	64,878	.....	*44,453	.....	*11,251	.....	7,501	.....	*1,356	.....	*50,324	.....	*24,656	.....	*22,379
Chattel Mortgages.....	37	21,908	38	10,932	103	22,836	55	24,320	75	36,380	85	22,667	80	29,395	73	17,290
Same satisfied.....	3	555	12	5,814	16	7,956	16	6,691	14	23,078	17	3,614	12	3,161	23	9,988
Balance unsatisfied.....	.....	21,353	.....	5,118	.....	14,880	.....	17,629	.....	13,302	.....	18,763	.....	26,244	.....	7,302
Mechanics' Liens.....	7	525	15	929	15	1,503	12	2,810	10	382	17	1,438	12	1,399	8	781
Same satisfied.....	2	122	4	315	6	877	7	1,769	3	297	7	647	3	849	2	570
Balance unsatisfied....	.....	407	.....	614	.....	626	.....	1,041	.....	85	.....	791	.....	550	.....	211
Total bal. unsatisfied	.....	87,493	.....	*36,247	.....	*4,575	.....	32,943	.....	20,870	.....	*23,616	.....	*6,302	.....	*13,790
Vol. Real Est. Transfers	553	485,580	522	494,091	603	611,692	664	438,045	565	522,568	551	511,541	476	482,412	701	669,331
Ex. and Adm. Transfers	7	6,021	13	4,464	11	11,408	9	7,321	7	2,990	9	17,526	7	13,274	5	4,999
Sheriffs' Transfers.....	6	3,677	5	2,777	14	16,942	5	7,015	23	18,415	45	39,686	35	41,274	34	21,196
Auditors' Transfers.....	.....	.....	.....	.....	1	108	4	8,010	2	496	5	847	4	521	3	533
Commls'n'rs' Transfers	6	2,750	7	3,765	11	2,387	4	16,000	2	734	7	7,030	6	11,609	10	3,675
Tax Title Transfers....	.....	.....	1	18	5	182	1	3	2	18	1	14	3	177	10	304
Total Transfers.....	572	498,028	548	505,115	645	642,719	687	476,894	691	545,231	618	576,744	531	549,267	763	700,038

TABLE No. XXXIII.—Continued.

Recapitulation of Recorder's Reports,

Showing the Total Number and Amounts of Mortgages, Mechanics' Liens and Transfers for Thirty-eight Counties.

Classification of Records.	1872-73.		1873-74.		1874-75.		1875-76.		1876-77.		1877-78.		1878-79.		Total for Seven Years.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
School Mortgages.....	280	\$232,754	261	\$238,724	911	\$238,970	810	\$220,004	768	\$193,830	821	\$222,230	684	\$155,007	5,844	\$1,502,519
Same satisfied.....	510	107,620	407	84,176	388	93,307	573	90,875	259	80,038	345	75,541	233	60,660	2,538	593,105
Balance unsatisfied.....	479	125,134	454	154,548	523	145,663	437	129,129	469	113,794	473	146,689	551	94,457	3,306	909,414
Other Real Estate Mortgages	8,891	7,165,791	10,295	8,032,515	10,771	9,659,391	10,677	9,793,096	11,361	8,749,033	10,494	7,423,253	6,812	4,478,907	68,801	54,802,006
Same satisfied.....	4,123	3,606,496	5,620	4,504,922	6,070	4,990,440	5,821	5,331,587	6,608	4,390,030	5,035	3,907,168	3,434	2,802,105	35,791	29,302,748
Balance unsatisfied.....	4,668	3,559,295	4,665	3,527,593	4,701	4,738,951	4,856	3,461,509	5,753	4,359,003	5,459	3,516,085	2,878	1,676,802	33,010	24,939,258
Chattel Mortgages.....	1,425	612,856	1,702	680,170	2,381	637,973	2,962	1,005,579	3,275	1,104,270	3,645	1,319,477	2,334	778,534	17,742	6,228,399
Same satisfied.....	247	119,433	350	172,473	433	173,754	533	233,974	563	238,969	609	226,213	423	133,051	3,308	1,265,867
Balance unsatisfied.....	1,178	492,963	1,342	507,697	1,898	464,219	2,449	771,605	2,712	867,301	3,044	993,274	1,911	645,483	14,534	4,962,542
Mechanics' Liens	388	55,788	462	115,023	530	103,386	633	98,989	365	37,990	399	53,271	160	21,324	2,918	463,771
Same satisfied.....	123	14,693	130	16,873	174	21,304	187	31,560	173	14,901	124	14,965	49	11,761	917	126,067
Balance unsatisfied.....	265	41,095	332	98,151	356	82,082	446	67,429	233	23,089	268	38,306	101	9,563	2,001	337,704
Total of all Mortgages, etc...	11,693	5,066,729	13,320	9,066,432	14,593	10,890,720	15,102	10,117,668	15,769	10,085,143	15,348	8,918,231	9,480	5,433,772	95,205	62,518,696
Total satisfied.....	5,073	3,848,942	5,527	4,778,444	7,065	5,204,806	6,912	5,637,996	6,602	4,691,936	6,106	4,124,878	4,139	3,007,467	42,454	31,847,767
Total balance unsatisfied.....	6,620	4,218,487	6,793	4,287,989	7,498	5,685,914	8,190	4,479,672	9,167	5,393,207	9,242	4,793,353	5,341	2,426,305	52,851	31,170,928
Voluntary Real Estate Trans.	20,777	172,864	21,821	22,410,368	23,249	22,410,368	23,249	21,047,899	20,540	19,394,807	19,726	18,009,490	13,263	11,168,862	140,519	138,303,656
Executors and Adm'r's Trans.	226	261,251	203	257,601	294	267,601	294	231,513	258	180,903	285	228,023	228	145,453	1,723	1,604,880
Sheriffs' Transfers.....	410	828,740	424	405,198	516	405,198	516	532,832	807	717,574	1,362	1,135,611	912	871,197	6,044	4,416,990
Auditors' Transfers.....	118	17,229	118	19,278	131	21,134	129	48,177	111	21,134	129	26,826	73	11,148	827	174,740
Commissioner's Transfers..	190	139,994	174	137,180	207	276,376	263	202,315	213	276,376	263	263,420	146	146,684	1,353	1,373,924
Tax Title Transfers.....	310	8,907	312	17,074	445	16,679	586	7,833	586	16,679	419	11,792	435	11,247	2,869	94,813
Total Transfers.....	21,996	22,939,965	23,062	23,946,639	24,842	22,080,568	23,515	22,080,568	23,515	21,146,572	22,181	19,670,163	15,116	12,854,111	152,304	145,958,303

NOTE.—This table recapitulates only the counties that have furnished full reports for the years given. Several counties, it will be seen by the preceding tables, have given reports covering only the last year or two, and in the call for the recorders to supplement their former reports with the report for 1880, but few responded, so that year can not be included in the recapitulation for comparison with other years.

TABLE No. XXXIV.

Statement showing Population of 1880 and 1870, by Counties, and the Ratio to Population of Voters, Taxable Polls and Enumerated School Children—the nearest even per cent. only being given.

Counties.	Ratio to Population in 1880.						Ratio to Population in 1870.					
	Population, — Census of 1880.	Voters.	Percent of Pop- ulation.	Taxable Polls, 1880.	Percent of Pop- ulation.	Enum e rated School Child- ren, 1880.	Percent of Pop- ulation.	Population, — Census of 1870.	Taxable Polls, 1870.	Percent of Pop- ulation.	Enum e rated School Child- ren, 1870.	Percent of Pop- ulation.
Adams.....	15,385	3,225	.21	2,249	.14	6,604	.36	11,382	1,579	.13	4,383	.38
Allen.....	53,951	12,495	.23	7,806	.14	23,929	.42	43,494	5,502	.12	18,510	.42
Bartholomew.....	22,777	5,550	.24	4,079	.14	7,743	.34	21,133	3,380	.16	7,780	.36
Benton.....	11,107	2,823	.25	1,984	.17	3,725	.33	5,615	876	.15	1,817	.32
Blackford.....	8,021	1,892	.23	1,380	.17	2,800	.34	6,272	923	.14	2,270	.36
Boone.....	25,978	6,363	.24	4,235	.16	9,358	.36	22,593	3,532	.19	8,205	.36
Brown.....	10,264	2,172	.21	1,607	.15	3,606	.35	8,681	1,175	.13	3,365	.39
Carroll.....	18,347	4,516	.24	3,013	.16	6,410	.34	16,152	2,539	.15	5,708	.35
Cass.....	26,709	6,885	.26	4,852	.18	9,427	.35	24,193	3,707	.15	7,968	.33
Clark.....	28,638	6,554	.23	3,459	.13	10,117	.35	24,770	3,262	.13	8,187	.33
Clay.....	25,889	6,183	.24	4,081	.15	8,763	.34	19,084	3,049	.16	6,272	.34
Clinton.....	23,473	5,638	.24	3,914	.16	8,102	.33	17,330	1,462	.08	6,469	.27
Crawford.....	12,356	2,622	.21	1,792	.14	4,370	.35	9,851	1,431	.14	3,787	.37
Davies.....	21,552	4,830	.22	3,450	.16	7,780	.36	16,747	2,505	.15	6,421	.33
Dearborn.....	26,656	6,185	.23	3,442	.13	9,455	.35	24,116	3,286	.13	9,962	.41
Decatur.....	19,779	4,949	.25	3,231	.16	7,023	.35	19,053	2,778	.15	7,237	.38
DeKalb.....	20,225	5,124	.24	3,459	.17	6,920	.34	17,167	2,528	.14	6,112	.35
Delaware.....	22,927	5,502	.24	3,651	.16	7,898	.34	19,030	2,912	.15	6,666	.34
Dubois.....	15,991	3,386	.21	2,217	.13	6,123	.31	12,597	1,771	.14	5,363	.42
Elkhart.....	33,443	7,685	.22	5,503	.16	11,205	.33	26,026	4,538	.16	9,456	.36
Fayette.....	11,394	2,998	.25	1,933	.17	3,508	.38	10,476	1,782	.17	3,704	.35
Floyd.....	24,689	5,373	.21	2,250	.09	8,984	.37	23,300	2,783	.19	10,607	.43
Fountain.....	20,228	5,165	.25	3,529	.17	7,080	.34	16,389	2,737	.16	6,275	.38
Franklin.....	20,090	4,821	.24	3,003	.14	7,476	.36	20,223	2,629	.13	7,762	.38
Fulton.....	14,301	3,616	.25	2,286	.14	4,964	.34	12,726	1,982	.15	4,831	.38
Gibson.....	22,742	5,203	.23	3,679	.16	7,902	.34	17,871	3,003	.17	6,608	.38
Grant.....	23,618	5,736	.24	3,954	.17	7,976	.33	18,487	2,811	.15	7,115	.38
Greene.....	22,996	5,076	.22	3,537	.15	3,311	.36	19,514	3,126	.16	7,907	.40

Hamilton	34,809	5,665	24	4,940	17	8,284	.33	90,893	2,142	.14	7,615	.35
Hancock	17,128	4,170	.34	2,904	.16	5,744	.32	15,122	9,825	.15	6,497	.38
Harrison	31,826	4,449	.21	3,045	.14	8,414	.33	19,913	2,873	.14	7,631	.34
Hendricks	32,975	5,430	.24	3,738	.16	7,684	.34	20,977	3,307	.15	7,146	.34
Henry	34,015	6,048	.25	4,023	.17	7,982	.33	23,986	3,496	.16	7,827	.37
	19,394	4,870	.25	3,432	.18	6,569	.34	13,847	2,618	.16	5,697	.37
	21,805	5,344	.25	3,707	.12	7,471	.34	19,036	2,667	.14	7,061	.37
Jackson	23,050	5,223	.23	3,695	.11	7,642	.34	18,974	2,754	.14	7,176	.38
Jasper	9,465	2,238	.34	1,553	.16	8,396	.36	6,354	1,045	.16	2,436	.38
Jay	19,260	4,549	.33	3,120	.16	6,715	.36	16,000	2,190	.14	4,941	.32
Jefferson	26,377	6,068	.23	3,400	.13	11,745	.44	23,741	2,977	.10	10,570	.35
Jennings	16,453	3,866	.23	2,401	.15	5,773	.35	16,218	2,263	.14	6,079	.37
Johnson	19,572	4,754	.24	3,134	.16	6,394	.33	18,566	2,911	.16	6,167	.33
Knox	26,323	6,157	.34	4,223	.16	10,985	.41	21,532	2,868	.13	7,909	.36
Kosciusko	26,492	6,480	.34	4,453	.16	9,015	.34	23,531	3,568	.15	8,833	.37
Lagrango	16,629	3,810	.24	2,603	.16	5,136	.33	14,148	2,120	.15	4,868	.34
Lake	15,091	3,321	.23	2,044	.13	5,360	.31	12,839	1,736	.14	4,627	.37
Laporte	30,976	7,632	.34	4,533	.16	11,108	.33	27,032	4,204	.15	8,345	.38
Lawrence	18,846	3,961	.31	2,641	.13	6,432	.34	14,628	2,369	.16	5,833	.38
Madison	27,531	6,558	.34	4,636	.12	9,548	.34	22,770	3,410	.16	8,109	.36
Marion	102,780	28,253	.25	17,515	.17	35,343	.34	71,938	9,194	.13	20,738	.28
Marshall	28,416	5,307	.22	2,713	.16	8,945	.35	20,211	3,051	.14	7,181	.36
Martin	13,474	2,916	.21	2,023	.14	4,877	.35	11,103	1,556	.14	4,038	.36
Miami	24,281	6,135	.25	3,953	.16	7,926	.32	21,053	3,378	.15	7,563	.36
Monroe	16,374	3,582	.23	2,498	.15	5,660	.36	14,168	2,012	.14	5,469	.38
Montgomery	27,314	7,106	.26	4,533	.16	9,839	.35	23,765	3,663	.16	8,016	.33
Morgan	18,899	4,627	.24	3,046	.14	6,501	.34	17,628	2,616	.16	6,963	.35
Newton	8,167	1,962	.23	1,315	.16	2,743	.33	5,829	933	.16	2,050	.35
Noble	22,804	5,778	.25	3,685	.16	7,694	.33	20,389	3,318	.16	7,235	.35
Ohio	6,563	1,357	.24	767	.13	1,971	.36	6,637	8,714	.13	1,938	.33
Orange	14,363	3,078	.21	2,280	.15	5,048	.35	13,497	1,970	.14	5,000	.37
Owen	16,901	3,693	.22	2,475	.15	5,824	.36	16,137	2,298	.14	6,879	.36
Parks	19,400	4,781	.24	3,583	.16	6,582	.38	18,166	2,304	.15	6,492	.35
Perry	16,997	3,647	.23	2,311	.13	6,670	.38	14,800	2,174	.14	6,216	.42
Pike	16,394	3,657	.21	2,716	.16	5,746	.35	13,779	2,100	.15	5,061	.37
Porter	17,229	4,008	.23	2,353	.13	5,128	.39	13,943	2,344	.16	4,763	.34
Poey	20,467	4,648	.22	3,194	.15	8,046	.35	19,186	2,764	.14	7,016	.37
Pulaski	9,861	2,221	.23	1,275	.13	3,638	.37	7,891	578	.08	2,913	.37
Pultram	28,503	5,511	.24	3,606	.16	7,978	.35	21,514	3,388	.16	7,499	.34
	25,437	6,303	.24	4,061	.18	9,103	.34	22,852	3,248	.14	8,116	.35
	21,627	4,902	.22	2,944	.13	8,074	.37	20,977	2,923	.13	7,572	.36
	19,268	5,039	.26	3,456	.16	8,013	.31	17,636	2,919	.16	6,449	.36
	8,843	1,916	.22	1,233	.15	3,064	.38	7,873	1,111	.14	2,903	.37
Shelby	25,256	6,153	.24	4,069	.16	8,493	.34	21,892	3,363	.16	8,108	.37
Spencer	22,128	4,838	.21	3,270	.14	9,158	.41	17,938	2,707	.15	7,642	.43
Starks	5,105	1,206	.25	511	.14	1,871	.36	3,884	653	.14	1,534	.39
Stearns	14,644	3,242	.25	2,536	.13	4,879	.33	12,854	1,963	.15	4,435	.36
St. Joseph	33,176	8,223	.24	5,119	.16	10,967	.38	26,333	4,311	.17	8,638	.34
Sullivan	19,633	4,768	.24	3,036	.13	7,349	.37	18,403	2,921	.15	7,315	.39
Switzerland	13,336	3,199	.24	2,086	.16	4,694	.35	12,134	1,896	.15	4,750	.39

TABLE No. XXXIV.—Continued.

Counties.	Ratio to Population in 1880.						Ratio to Population in 1870.			
	Population, Census of 1880.	Voters.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, Census of 1870.	Taxable Polls, 1870.	Per cent. of Population.
Tippecanoe.....	35,966	9,084	.25	5,498	.15	14,178	.39	33,515	5,268	.15
Tipton.....	14,402	3,439	.23	2,227	.15	5,336	.37	11,953	1,813	.15
Union.....	7,693	1,908	.22	1,260	.16	2,563	.33	6,841	1,145	.18
Vanderburgh.....	42,192	9,675	.23	5,742	.13	17,510	.41	33,145	4,253	.12
Vermillion.....	12,025	2,938	.24	2,067	.20	4,193	.34	10,840	1,478	.13
Vigo.....	45,656	10,366	.22	6,530	.14	15,064	.33	33,549	5,000	.14
Wabash.....	25,268	6,080	.24	4,367	.17	8,835	.35	21,305	3,363	.15
Warren.....	11,497	2,858	.24	2,017	.21	3,910	.34	10,204	1,690	.16
Warrick.....	20,162	4,426	.21	3,329	.16	8,073	.40	17,653	2,370	.13
Washington.....	18,949	4,110	.21	2,815	.15	6,683	.35	18,495	2,585	.14
Wayne.....	38,618	9,797	.25	5,715	.15	18,812	.46	34,048	4,587	.13
Wells.....	18,442	4,401	.23	3,215	.17	6,299	.34	13,585	2,021	.15
White.....	18,797	3,375	.24	2,394	.17	4,514	.32	10,554	1,621	.15
Whitley.....	16,641	4,203	.25	2,796	.16	5,872	.34	14,399	2,211	.15
Totals.....	1,976,277	470,461	.....	311,715	.....	703,862	.....	1,680,637	246,029	.....
Per cent. of population.....	.....	.....	28.80	.....	15.79	.....	35.65	.....	.....	14.64
									613,144	.....
									.....	36.54

NOTE.—The population of 1880 was furnished by the Census Bureau at Washington. The numbers of voters were furnished by the several County Clerks. The numbers of taxable polls were furnished by the County Auditors, and where these did not respond in time the report of the State Board of Equalization was referred to for polls, and the number of enumerated school children was furnished by the State Superintendent of Public Instruction. The population of 1870 was taken from the last census report. This, and the same table by townships, cities and towns, will enable any one to closely approximate the population of any locality for any past or future year. As the increase of the taxable polls plus the enumerated school children, so will be the probable increase of the population and voters of that locality. The voters of 1870 are not given, because that was an "off year," and the full vote of the State was not cast, and can not be fairly compared with the vote of 1880, when the full vote of the State was called out. In 1882, and other election years of the future, figuring politicians may determine with considerable certainty whether the vote of any county or part thereof has been too much inflated—assuming, of course, that the vote of 1880 has been fully cast and correctly counted—by comparing the increase of the vote with the increase of the taxable polls and enumerated school children, as aforesaid, and making due allowance for any causes that may operate to increase the adult male population, as the opening of new and extensive mines, or the founding of large manufactories. A careful examination of this table will show that in some localities the taxable polls do not bear the proper ratio to voters, population, etc. This may be due to mining and manufacturing, where there is a large transient population, some of whom avoid the assessor, but are prompt at the voting precinct.

TABLE No. XXXV.

Statement showing Population of 1880, by Townships, Cities and Towns, and the Ratio to Population of Voters, Taxable Polls and Enumerated School Children, also the Polls and Children of 1870, and their Ratios to Population that Year, the nearest even per cent. only being given.

The sums designated by the same letter in each column are included in one when taking the per cent. of population. The query (?) indicates that there is an improbable ratio between population, voters, polls or children, and that some of the original figures are suspected of being wrong.

Adams County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Children, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Children, 1870.	Per cent. of Population.
Union	912	.....	...	150	.16	362	.39	865	126	.14	308	.35
Root.....	1,270	.....	...	209	.16	477	.38	1,252	168	.13	493	.39
Preble.....	997	.....	...	126	.13	404	.40	996	138	.13	389	.39
Kirkland.....	793	.....	...	120	.15	273	.34	508	75	.14	181	.35
Washington	1,254	.....	...	191	.15	460	.37	1,846	134	.15	413	.47
St. Mary's.....	979	.....	...	134	.13	358	.37	1,005	118	.14	358	.39
Blue Creek	870	.....	...	82	? .09	329	.38	820	116	.14	287	.35
Monroe	1,534	.....	...	216	.14	568	.36	960	118	.12	362	.37
French	1,032	.....	...	136	.13	433	.42	824	102	.12	339	.41
Hartford	1,103	.....	...	170	.15	424	.37	935	118	.12	363	.38
Wabash	1,991	.....	...	a 207	.16	a 528	.35	957	137	.14	354	.37
Jefferson.....	745	.....	...	105	.14	247	.33	494	77	.17	168	.39
Decatur, corp.....	1,905	.....	...	292	.15	565	.29	858	152	.17	368	.42
Geneva, corp.....	.....	.....	...	a 111	...	a 176	...	.....	.....	...	.....	.....
Total.....	15,385	3,225	.21	2,249	.14	5,604	.36	11,382	1,579	.14	4,383	.38

Allen County.

Aboite.....	918	224	.24	148	.16	377	.41	906	156	.17	307	.43
Adams	1,759	235	? .13	240	.14	646	.36	2,388	202	.13	566	.38
Cedar Creek	1,584	327	.20	240	.15	597	.38	1,713	271	.15	710	.41
Eel River	1,297	292	.23	210	.16	507	.39	1,217	162	.13	539	.44
Jackson	295	75	.26	48	.16	118	.40	202	32	.15	66	.32
Jefferson.....	1,782	358	.20	212	.12	523	.29	1,445	198	.13	507	.35
Lafayette.....	1,425	370	.26	237	.16	537	.37	1,471	133	? .09	648	.46
Lake	1,388	313	.23	204	.15	547	.39	1,309	170	.12	498	.38
Madison.....	1,477	325	.22	229	.15	523	.35	1,278	176	.18	472	.36
Marion.....	1,375	310	.23	201	.15	507	.37	1,319	184	.13	568	.42
Maumee	437	103	.23	85	.19	174	.39	394	165	.41	144	.36
Milan	1,451	248	.19	243	.17	541	.37	1,183	162	.15	417	.35
Monroe	? 1,034	380	? .36	a 163	? .25	a 293	? .67	1,479	118	.14	251	.29
Perry	1,254	316	.25	197	.16	422	.33	1,280	158	.12	496	.38
Pleasant	1,642	410	.25	167	? .10	607	.35	1,280	186	.14	527	.41
Scipio.....	514	124	.24	b 89	.17	b 186	.36	420	75	.17	156	.37
Springfield	1,898	431	.23	b 312	.16	b 683	.36	1,749	280	.16	731	.41
St. Joseph.....	1,522	358	.23	245	.16	562	.37	1,373	169	.12	611	.44
Washington	1,616	402	.25	289	.17	674	? .42	1,628	197	.11	665	.41
Wayne.....	a 2,100	6,538	.23	230	? .11	580	? .28	1,742	166	? .09	681	.39
New Haven, corp.....	858	321	? .38	123	.14	387	? .45	912	146	.16	290	.31
Monroeville, corp.....	.....	.....	...	a 93	...	a 400	...	630	143	.22	404	? .64
Fort Wayne, city.....	a26,007	.....	...	3,601	.15	13,538	? .52	17,718	1,963	.11	8,256	.46
Total.....	53,951	12,495	.23	7,806	.14	23,929	.42	43,494	5,502	.13	18,510	.48

TABLE No. XXXV.—Continued.

Bartholomew County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Haw Creek.....	2,620	.....	...	a 232	.18	a 871	.33	2,634	213	.16	449	.32
Flat Rock.....	1,540	.....	...	293	.19	495	.32	1,543	254	.16	500	.32
German.....	1,255	.....	...	244	.19	451	.36	1,652	213	.12	467	.28
Nineveh.....	720	.....	...	129	.18	252	.86	767	131	.17	296	.38
Union.....	828	.....	...	128	.15	323	.39	1,008	144	.14	453	?.45
Clifton.....	1,067	.....	...	178	.17	834	.31	1,133	160	.14	377	.33
Clay.....	794	.....	...	181	?.23	234	.29	778	112	.14	285	.37
Columbus.....	1,779	.....	...	351	.19	519	.29	5,187	805	.17	754	?.41
Harrison.....	1,162	.....	...	151	.13	482	.41	1,282	175	.13	471	.37
Rock Creek.....	? 1,099	.....	...	b 205	? .25	b 406	? .64	1,203	177	.14	463	.38
Sand Creek.....	1,501	.....	...	230	.15	390	.26	a1,240	214	.17	497	.40
Wayne.....	1,943	.....	...	350	.18	675	.35	b2,041	267	.13	646	.32
Ohio.....	880	.....	...	119	.14	283	.32	747	103	.14	269	.36
Jackson.....	776	.....	...	121	.17	292	.38	678	74	.18	354	?.52
Hope, corp.....	.....	.....	...	a 168	..	a 302	...	765	110	.14	284	.36
Hartsville, corp.....	.....	.....	...	a 70	...	a 190	...	433	55	...	136	.31
Jonesville, corp.....	.....	.....	...	.....	...	.....	...	b206	51	...	.....	....
Elizabethtown, corp.....	.....	.....	...	b 68	...	b 168	...	a294	.....	...	.....	....
Columbus, city.....	4,813	.....	...	861	.18	1,578	.32	3,359	622	.19	1,079	.32
Total.....	22,777	5,550	.24	4,079	.14	7,745	.34	21,133	3,380	.16	7,780	.37

Benton County.

Bolivar.....	995	.....	...	163	.16	401	.40	776	138	.17	266	.36
Center.....	1,878	.....	...	a 159	.18	a 222	.27	278	49	.17	54	?.19
Gilboa.....	921	.....	...	148	.16	338	.36	452	75	.16	184	.40
Grant.....	1,175	.....	...	217	.18	379	.33	835	134	.16	284	.34
Hickory Grove.....	806	.....	...	152	.18	268	.32	.....	.....	...	.....	...
Oak Grove.....	1,434	.....	...	b 164	.18	b 237	.34	a1,239	203	.16	401	.32
Parish Grove.....	603	.....	...	151	?.25	168	.28	193	17	?.08	59	.30
Pine.....	558	.....	...	103	.19	201	.87	523	68	.13	187	.35
Richland.....	1,151	.....	...	183	.16	410	.35	546	72	.13	148	.27
Union.....	871	.....	...	150	.17	218	.25	340	41	.12	77	.22
York.....	717	.....	...	111	.15	339	?.47	433	.....	...	187	.32
Fowler, corp.....	.....	.....	...	a 178	...	a 295	...	.....	.....	...	.....	...
Oxford, corp.....	.....	.....	...	b 106	...	b 259	...	a 519	.....	...	.....	...
Total.....	11,107	2,823	.25	1,984	.17	3,725	.33	5,615	876	.16	1,817	.32

Blackford County.

Licking.....	1,358	.....	...	237	?.11	487	.36	2,185	193	.15	438	.33
Harrison.....	1,595	.....	...	248	.15	512	.32	1,680	218	.13	594	.35
Jackson.....	1,756	.....	...	292	.16	694	.39	1,479	211	.14	517	.34
Washington.....	1,273	.....	...	234	.18	402	.31	1,008	153	.15	384	.38
Hartford City, corp.....	1,471	.....	...	252	.17	506	.34	878	147	.16	337	.38
Montpeller.....	618	.....	...	117	.19	199	.32	.....	.....	...	.....	...
Total.....	8,021	1,892	.23	1,380	.17	2,800	.34	6,272	922	.15	2,270	.36

TABLE No. XXXV.—Continued.

Boone County.

Townships, Cities and Towns.	Ratios to Population in 1880.						Ratios to Population, 1870.					
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.
Marion.....	2,307	.....	..	401	.17	828	.84	1,788	286	.15	648	.36
Clinton.....	1,487	.....	..	256	.17	538	.85	1,220	174	.14	478	.38
Washington.....	1,352	.....	..	245	.17	482	.83	1,391	316	.15	523	.37
Sugar Creek.....	3,015	.....	..	a 237	.15	a 554	.84	a 3,138	a 479	.16	471	.29
Jefferson.....	1,998	.....	..	377	.19	701	.85	1,675	298	.18	597	.35
Center.....	2,858	.....	..	408	.14	966	.84	3,886	554	.14	832	.21
Union.....	1,092	.....	..	187	.17	388	.86	1,057	154	.14	409	.38
Eagle.....	2,304	.....	..	b 221	.18	b 457	.85	b 3,320	328	.14	478	.20
Perry.....	1,240	.....	..	195	.16	407	.83	1,109	168	.15	456	.41
Harrison.....	1,401	.....	..	235	.16	468	.83	1,309	188	.15	438	.36
Jackson.....	2,919	.....	..	c 392	.17	c 729	.84	c 2,433	441	.18	796	.32
Worth.....	1,425	.....	..	216	.15	582	.89	1,343	213	.15	511	.36
Thorntown, corp.....	.....	.....	..	a 243	...	a 508	...	a 1,828	.....	...	541	.35
Zionsville, corp.....	.....	.....	..	b 127	...	b 308	...	b 956	.....	...	824	.26
Jamestown, corp.....	.....	.....	..	c 107	...	c 256	...	c 803	.....	...	128	.20
Lebanon, city.....	3,626	.....	..	450	.17	1,263	.48	1,572	.....	...	616	.32
Total.....	25,978	6,362	.24	4,296	.16	9,358	.36	22,593	3,582	.15	8,205	.36

Brown County.

Hamblin	2,093	.....	...	315	.15	784	.37	2,011	369	.13	736	.36
Jackson	2,143	.....	...	318	.15	843	.39	1,760	232	.13	679	.38
Washington	2,836	.....	...	a 441	.18	a 783	.83	a 2,187	300	.14	945	.43
Van Buren	2,266	.....	...	344	.15	772	.34	2,048	270	.13	740	.36
Johnson	928	.....	...	124	.13	271	.29	685	104	.15	265	.38
Nashville, corp .....	.....	.....	...	a 64	...	a 158	...	a 270	.....	...	.....	...
Total	10,264	2,172	.21	1,607	.15	3,606	.35	8,681	1,176	.13	3,365	.37

Carroll County.

Jackson	1,449	.....	...	234	.16	606	.....	.....	.....	.....	.....	.....
Madison	785	.....	...	139	.18	386	.....	.....	.....	.....	.....	.....
Deer Creek	1,656	.....	...	230	.14	407	.....	.....	.....	.....	.....	.....
Carrollton	1,199	.....	...	195	.16	460	.....	.....	.....	.....	.....	.....
Washington	1,194	.....	...	216	.18	406	.....	.....	.....	.....	.....	.....
Rock Creek	1,420	.....	...	234	.16	523	.....	.....	.....	.....	.....	.....
Democrat	1,368	.....	...	255	.18	528	.....	.....	.....	.....	.....	.....
Burlington	1,364	.....	...	238	.17	482	.....	.....	.....	.....	.....	.....
Clay	1,001	.....	...	176	.17	376	.....	.....	.....	.....	.....	.....
Adams	1,000	.....	...	182	.18	311	.....	.....	.....	.....	.....	.....
Jefferson	1,118	.....	...	300	.18	432	.....	.....	.....	.....	.....	.....
Tipppecanoe	1,174	.....	...	a 139	.16	a 320	.....	.....	.....	.....	.....	.....
Monroe	1,566	.....	...	272	.16	496	.....	.....	.....	.....	.....	.....
Pittsburg, corp .....	.....	.....	...	a 50	...	a 159	.....	.....	.....	.....	.....	.....
Delphi, city	2,040	.....	...	256	.12	810	.....	.....	.....	.....	.....	.....
Total	18,347	4,516	.24	3,013	.16	6,410	.34	16,162	3,639	.15	5,706	.35

TABLE No. XXXV.—Continued.

Cass County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Boone	1,439	.....	...	235	.16	508	.35	1,568	212	.13	484	.31
Harrison	1,157	.....	...	212	.18	426	.37	1,171	170	.15	484	.41
Adams	886	.....	...	172	.19	324	.37	807	115	.14	348	.43
Bethlehem	1,163	.....	...	219	.18	422	.36	993	154	.15	350	.35
Clay	833	.....	...	139	.16	272	.33	814	124	.15	269	.31
Noble	953	.....	...	166	.17	270	.27	904	197	.21	279	.31
Jefferson	1,135	.....	...	187	.16	430	.38	1,285	196	.15	469	.36
Miami	895	.....	...	177	.19	290	.32	1,008	170	.17	328	.32
Eel	221	.....	...	18	?.09	69	.81	160	33	.20	96	?.60
Clinton	991	.....	...	193	.19	323	.32	1,021	153	.15	375	.36
Washington	1,544	.....	...	263	.16	505	.32	1,220	198	.16	462	.38
Tipton	1,982	.....	...	a 302	.19	a 499	.37	1,808	302	.16	659	?.46
Deer Creek	1,607	.....	...	283	.17	527	.33	1,271	212	.16	447	?.43
Jackson	1,605	.....	...	253	.15	655	.40	1,519	176	.13	369	?.24
Walton, corp .....	.....	.....	...	a 87	...	a 234	...	.....	.....	...	182	.....
Galveston, corp .....	.....	.....	...	.....	...	.....	...	830	74	.19	.....	.....
Logansport, city	11,198	.....	...	1,946	.17	3,673	.33	12,191	921	?.10	2,367	?.27
Total	26,709	6,885	.26	4,852	.18	9,427	.35	24,193	3,707	.15	7,968	.33

Clark County.

Bethlehem	798	.....	...	129	.16	270	.34	763	108	.14	259	.33
Carr	1,126	.....	...	148	.13	274	?.24	692	151	.21	370	?.54
Charlestown	1,996	.....	...	315	?.11	855	?.43	3,294	213	?.07	603	?.55
Jeffersonville	2,783	.....	...	a 189	.14	a 577	.30	3,042	a 208	?.07	a 414	?.28
Monroe	1,887	.....	...	248	.13	643	.34	1,863	248	.13	755	.40
Oregon	1,315	.....	...	184	.14	459	.35	1,360	208	.16	470	.34
Owen	815	.....	...	131	.16	243	.30	679	90	.13	225	.33
Silver Creek	1,186	.....	...	170	.14	520	?.44	1,116	129	.11	402	.36
Union	1,010	.....	...	131	.13	383	.38	1,022	148	.14	380	.37
Utica	1,608	.....	...	215	.13	590	.37	1,598	184	.11	343	.21
Washington	1,379	.....	...	197	.13	445	.32	1,357	196	.14	506	.37
Wood	1,210	.....	...	194	.16	594	?.49	730	193	?.26	515	?.70
Charlestown, corp	1,103	.....	...	125	?.11	444	.40	2,204	118	?.06	374	?.17
Clarksville, corp .....	.....	.....	...	a 103	...	a 120	...	.....	.....	...	a 268	.....
Port Fulton, corp .....	.....	.....	...	a 100	...	a 252	...	.....	a 88	...	a 181	.....
Jeffersonville, city	10,422	.....	...	1,363	.13	3,448	.33	7,254	990	.13	2,149	.29
Total	28,638	6,554	.23	3,459	.13	10,117	.35	24,770	3,262	.13	8,187	.33

Clay County.

Posey	2,477	.....	...	a 284	.15	a 568	.32	a 2,533	341	.16	728	?.23
Dick Johnson	1,075	.....	...	173	.16	367	.34	868	131	.15	310	.35
Van Buren	5,161	.....	...	b 534	.18	b 1,151	.40	b 4,119	564	.13	822	?.56
Jackson	2,542	.....	...	443	.17	858	.33	1,711	264	.15	567	.33
Perry	1,836	.....	...	253	.13	605	.32	1,340	206	.15	434	.32
Lewis	1,494	.....	...	269	.18	515	.34	1,220	200	.16	487	.39
Harrison	3,043	.....	...	c 403	.15	c 911	.36	2,241	358	.15	861	.38
Washington	1,796	.....	...	d 204	.15	d 416	.36	c 1,867	282	.15	687	.34
Cass	536	.....	...	88	.16	209	.39	496	81	.16	194	.39

TABLE No. XXXV.—Continued.

Clay County.—Continued.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Sugar Ridge	1,533	.....	...	e 215	.16	e 475	.89	d1,277	a 173	.15	303	.34
Brazil	4,346	.....	...	f 158	.16	f 255	.31	2,772	114	? .04	258	? .08
Staunton, corp .....	.....	.....	...	a 88	...	a 245	...	a 589	.....	...	.....	.....
Center Point, corp .....	.....	.....	...	e 48	...	e 129	...	d 226	a .....	...	112	? .49
Bowling Green, corp .....	.....	.....	...	d 80	...	d 241	...	c 606	.....	...	.....	.....
Knightsville, corp .....	.....	.....	...	b 146	...	b 399	...	b1,071	.....	...	.....	.....
Carbon, corp .....	.....	.....	...	b 86	...	b 155	...	.....	.....	...	.....	.....
Martz, corp .....	.....	.....	...	c 65	...	c 188	...	.....	.....	...	.....	.....
Brazil, city .....	.....	.....	...	f 549	...	f1,075	...	2,186	335	.15	519	.25
Total	25,839	6,183	.24	4,081	.15	8,762	.34	19,084	3,049	.16	6,272	.32

Clinton County.

Center	1,915	.....	...	303	.15	517	.26	.....	.....	....	.....	.....
Ross	1,870	.....	...	a 244	.16	a 441	.32	a1,747	99	? .05	652	.37
Owen	1,541	.....	...	275	.17	522	.33	1,118	80	? .07	389	.34
Warren	1,843	.....	...	319	.17	543	.29	1,629	134	? .06	595	.36
Madison	1,313	.....	...	238	.18	451	.34	865	74	? .07	286	.33
Washington	1,228	.....	...	206	.16	435	.35	1,387	93	? .08	487	.35
Michigan	2,214	.....	...	b 324	.16	b 571	.32	b1,732	151	? .08	647	.37
Johnson	2,278	.....	...	c 366	.17	c 837	.42	1,666	168	? .10	629	.31
Perry	1,920	.....	...	d 190	.15	d 451	.36	c1,220	121	? .09	426	.35
Jackson	1,545	.....	...	246	.15	560	.36	3,932	261	? .06	477	? .18
Kirkland	1,713	.....	...	e 235	.16	e 506	.32	d1,266	102	? .08	335	.26
Sugar Creek	1,410	.....	...	219	.15	506	.35	964	62	? .09	385	.34
Colfax, corp .....	.....	.....	...	d 114	...	d 245	...	c 187	.....	....	.....	.....
Rossville, corp .....	.....	.....	...	a 57	...	a 177	...	a 389	.....	....	.....	.....
Michigantown, corp .....	.....	.....	...	b 88	...	b 156	...	b 315	.....	....	.....	.....
Kirkland, corp .....	.....	.....	...	e 50	...	e 105	...	d 141	.....	....	.....	.....
Hillsburg, corp .....	.....	.....	...	c 27	...	c 119	...	.....	.....	....	.....	.....
Frankfort, city	2,683	.....	...	465	.17	960	.35	1,300	87	? .06	483	.37
Total	23,473	5,638	.24	3,914	.16	8,102	.33	17,330	1,462	? .08	6,469	.37

Crawford County.

Jennings	2,364	.....	...	236	? .09	576	? .24	a2,114	293	.14	723	.34
Whisky Run	1,288	.....	...	196	.15	482	.37	1,214	160	.13	448	.36
Liberty	882	.....	...	131	.14	283	.32	757	123	.16	265	.34
Sterling	1,992	.....	...	256	.12	724	.36	1,327	198	.15	506	.38
Patoka	1,618	.....	...	243	.14	515	.31	1,253	170	.13	476	.33
Johnson	923	.....	...	107	? .11	346	.37	652	100	.15	295	? .45
Union	1,511	.....	...	230	.15	570	.37	1,082	141	.13	457	? .42
Ohio	1,079	.....	...	a 176	? .27	a 358	.39	1,150	167	.14	417	.36
Boone	699	.....	...	b 56	.13	b 158	.33	b 494	79	.16	200	.40
Leavenworth, corp .....	.....	.....	...	a 122	...	a 284	...	a 567	.....	....	.....	.....
Alton, corp .....	.....	.....	...	b 37	...	b 74	...	b 137	.....	....	.....	.....
Total	12,356	3,622	.21	1,793	.14	4,370	.35	9,851	1,431	.14	3,787	.38

TABLE No. XXXV.—Continued.

Daviess County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Washington	3,172	.....	...	487	.13	1,146	.36	4,956	286	.15	825	.40
Barr.....	3,129	.....	...	a 435	.14	a1,154	.39	a2,758	389	.14	1,075	.39
Harrison	1,289	.....	...	205	.16	484	.37	1,084	173	.15	435	.40
Veale.....	1,089	.....	...	187	.17	424	.39	393	170	.19	404	.45
Reve.....	1,682	.....	...	270	.16	584	.34	1,799	210	.11	693	.32
Steele.....	1,415	.....	...	227	.16	429	.30	738	116	.16	354	.47
Bogard.....	1,303	.....	...	267	.19	406	.31	1,170	166	.14	439	.37
Van Buren.....	1,384	.....	...	203	.14	472	.34	1,225	172	.14	394	.32
Elmore.....	1,073	.....	...	217	.20	414	.38	865	185	.15	335	.32
Madison.....	1,743	.....	...	276	.15	443	.25	1,600	224	.14	542	.33
Montgomery, corp.....	.....	.....	...	a 29	...	a81	...	a 135	.....	...	.....	....
Washington, city.....	4,323	.....	...	697	.16	1,543	.35	2,901	464	.16	925	.31
Total.....	21,552	4,820	.22	3,450	.16	7,780	.36	16,747	2,505	.15	6,421	.39

Dearborn County.

Harrison	1,090	.....	...	181	.16	441	.40	1,086	159	.13	506	.46
Logan.....	838	.....	...	107	.12	310	.37	832	122	.14	283	.33
Kelso	1,875	.....	...	a 119	.09	a 465	.38	1,908	218	.11	817	.42
Jackson	1,361	.....	...	156	.11	574	.42	1,366	166	.12	602	.44
York	1,043	.....	...	123	.11	409	.38	986	126	.12	516	.58
Miller	1,180	.....	...	171	.15	412	.36	1,120	156	.13	502	.45
Manchester.....	2,213	.....	...	306	.13	711	.32	2,029	320	.15	818	.40
Lawrenceburgh.....	1,191	.....	...	b 94	.10	b 300	.32	1,708	175	.10	482	.23
Center.....	1,671	.....	...	c 121	.13	c 111	.30	a4,699	a 151	.15	a 293	.29
Hogan.....	912	.....	...	157	.17	275	.30	1,250	113	.09	310	.26
Sparta.....	1,763	.....	...	a 188	.12	d 521	.40	b1,939	b 261	.18	b 566	.43
Clay.....	1,479	.....	...	203	.13	506	.34	1,269	178	.14	498	.19
Cesar Creek.....	503	.....	...	60	.11	237	.47	556	67	.12	227	.40
Washington	499	.....	...	60	.12	140	.28	510	76	.12	166	.32
Moore's Hill, corp.....	.....	.....	...	d 38	...	d 195	...	b 617	b...	...	b 218	.35
Cochran, corp.....	.....	.....	...	c 100	...	c 394	...	a 675	a...	...	a 261	.38
Greendale, corp.....	.....	.....	...	b 26	...	b91	...	.....	.....	...	.....	....
St. Leon, corp.....	.....	.....	...	a 52	...	a 252	...	.....	.....	...	.....	....
Aurora, city.....	4,434	.....	...	444	.10	1,631	.37	3,301	408	.12	1,370	.41
Lawrenceburgh, city.....	4,654	.....	...	739	.16	1,480	.31	3,159	600	.19	1,527	.48
Total.....	26,656	6,185	.23	3,442	.13	9,455	.35	24,116	3,286	.14	9,962	.41

Decatur County.

Adams.....	2,215	.....	...	324	.15	782	.35	2,331	349	.14	811	.34
Clay.....	1,973	.....	...	a 260	.18	a 569	.39	a2,065	336	.19	617	.35
Clinton.....	708	.....	...	130	.19	211	.29	828	114	.13	223	.26
Fugit.....	1,740	.....	...	b 806	.18	b 606	.38	1,630	219	.18	563	.34
Salt Creek	1,565	.....	...	201	.12	528	.33	1,687	230	.18	698	.40
Sand Creek.....	2,161	.....	...	c 320	.16	c 515	.29	2,029	306	.15	695	.40
Jackson	1,811	.....	...	283	.15	524	.29	1,746	a273	.15	a 564	.23
Marion	2,424	.....	...	360	.14	885	.36	2,315	295	.14	996	.42
Washington.....	2,044	.....	...	348	.17	845	.41	b4,591	b363	.08	b 757	.19
Forest Hill, corp.....	.....	.....	...	b 17	...	b66	...	.....	a.....	...	a 56	....
Millford, corp.....	.....	.....	...	a 43	...	a 195	...	a316	.....	...	177	.56
Westport, corp.....	.....	.....	...	c 89	...	c 133	...	.....	b.....	...	b 120	....
Greensburg, city.....	3,138	.....	...	600	.19	1,164	.37	b.....	291	...	1 060	....
Total.....	19,779	4,994	.25	3,231	.16	7,023	.35	19,053	2,778	.14	7,237	.37

TABLE No. XXXV.—Continued.

DeKalb County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Butler.....	833	.....	...	162	.17	247	.27	1,209	160	.12	435	.35
Jackson	1,842	.....	...	222	.16	473	.35	1,141	152	.14	425	.37
Concord	1,630	.....	...	308	.16	502	.30	1,472	211	.14	553	.37
Newville.....	744	.....	...	122	.17	261	.35	842	131	.16	304	.36
Stafford.....	509	.....	...	99	.19	203	.39	584	84	.14	195	.33
Wilmington	1,524	.....	...	250	.16	578	.38	2,296	a 209	.16	a 472	.34
Union	1,203	.....	...	183	.16	383	.31	3,059	186	.16	329	.29
Richland	1,349	.....	...	224	.16	578	.42	2,243	286	.12	661	.29
Fairfield.....	1,518	.....	...	267	.15	554	.37	1,554	243	.15	511	.32
Smithfield.....	1,423	.....	...	223	.15	477	.33	1,342	198	.15	525	.39
Franklin	1,311	.....	...	223	.16	417	.31	1,243	179	.14	411	.32
Troy.....	606	.....	...	98	.16	217	.35	600	79	.13	261	.43
Keyser	990	.....	...	185	.17	277	.28	.....	.....	...	.....	.....
Auburn, corp.....	1,542	.....	...	285	.18	540	.35	677	111	.15	282	.41
Waterloo, corp.....	1,376	.....	...	245	.18	518	.37	1,259	156	.12	427	.34
Butler, corp.....	1,056	.....	...	179	.16	362	.26	.....	a 143	...	a 321	.....
Garrett, corp.....	1,268	.....	...	184	.14	336	.26	.....	.....	...	.....	.....
Total	20,225	5,124	.24	3,459	.17	6,920	.34	17,167	2,528	.14	6,112	.35

Delaware County.

Salem.....	1,592	.....	...	268	.17	548	.35	1,413	234	.16	501	.35
Mt. Pleasant	1,949	.....	...	322	.16	720	.36	1,880	302	.16	681	.36
Harrison	1,786	.....	...	281	.15	626	.33	1,400	206	.14	491	.34
Washington.....	1,402	.....	...	237	.16	557	.39	1,190	182	.15	510	.44
Union	1,466	.....	...	182	.15	a 415	.33	1,244	a 173	.13	400	.32
Hamilton.....	1,217	.....	...	196	.16	468	.38	1,129	160	.14	411	.36
Center.....	1,462	.....	...	227	.15	388	.26	4,875	211	.15	418	.30
Monroe.....	1,434	.....	...	236	.16	454	.31	1,247	211	.16	407	.32
Perry	1,200	.....	...	197	.16	387	.31	1,163	176	.15	396	.34
Liberty.....	1,650	.....	...	259	.15	681	.41	1,639	260	.15	516	.31
Delaware.....	1,351	.....	...	198	.14	496	.36	1,210	173	.15	451	.37
Niles	1,554	.....	...	210	.13	383	.24	1,140	201	.17	403	.35
Eaton, corp.....	.....	.....	...	49	...	a 75	...	.....	a .....	...	.....	.....
Muncie, city.....	5,219	.....	...	789	.15	1,790	.34	2,992	423	.14	1,075	.36
Totals	22,927	5,502	.24	3,651	.16	7,898	.34	19,030	2,912	.15	6,666	.35

Dubois County.

Columbia.....	855	.....	...	137	.16	267	.31	1,622	221	.13	635	.39
Harblson	1,028	.....	...	160	.15	394	.38	1,590	226	.14	618	.39
Boon.....	1,188	.....	...	176	.15	400	.35	.....	.....	...	.....	.....
Madison	1,171	.....	...	181	.15	388	.33	.....	.....	...	.....	.....
Banbridge.....	2,038	.....	...	a 149	.13	a 409	.40	2,521	a 224	.12	a 631	.40
Marion	920	.....	...	140	.15	291	.31	.....	.....	...	.....	.....
Hall.....	1,806	.....	...	175	.13	468	.35	2,046	310	.15	912	.44
Jefferson.....	1,262	.....	...	156	.12	470	.37	.....	.....	...	.....	.....
Jackson	1,085	.....	...	141	.13	399	.36	.....	.....	...	.....	.....
Patoka	1,997	.....	...	b 176	.14	b 400	.39	3,086	b 409	.15	b 1,088	.48
Cass	1,448	.....	...	180	.13	704	.48	.....	.....	...	.....	.....
Ferdinand.....	1,748	.....	...	210	.12	713	.40	1,732	240	.13	773	.44
Huntingburgh, corp.....	.....	.....	...	b 101	...	b 398	...	.....	b 69	...	b 318	.....
Jasper, corp.....	.....	.....	...	a 135	...	a 422	...	547	a 72	...	a 388	.....
Total	15,991	3,886	.21	2,217	.13	6,123	.34	12,597	1,771	.14	5,363	.43

TABLE No. XXXV.—Continued.

Elkhart County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Bangor.....	708	.....	...	93	.13	294	.41	749	106	.14	345	?.46
Benton.....	1,557	.....	...	238	.15	527	.33	1,391	226	.16	529	?.39
Concord.....	1,461	.....	...	218	.14	476	.32	a4,725	202	.14	530	?.38
Clinton.....	1,695	.....	...	257	.15	649	.38	b2,099	257	.12	715	?.34
Cleveland.....	557	.....	...	103	.18	160	.28	549	96	.17	188	?.25
Elkhart.....	1,590	.....	...	230	?.11	525	.33	1,477	230	.15	592	?.40
Harrison.....	1,888	.....	...	307	.16	686	.36	1,655	275	.17	725	?.43
Jackson.....	1,591	.....	...	271	.17	538	.33	1,431	244	.17	515	?.25
Jefferson.....	1,265	.....	...	173	.12	457	.36	982	163	.16	342	?.34
Locke.....	1,364	.....	...	241	.17	375	?.27	1,049	156	.14	858	?.34
Middlebury.....	1,405	.....	...	210	.14	560	.39	1,709	a 197	.17	a 388	?.32
Olive.....	1,397	.....	...	224	.16	527	.37	1,394	214	.15	530	?.38
Osolo.....	728	.....	...	107	.14	239	.32	922	147	.14	357	?.38
Union.....	1,866	.....	...	336	.18	713	.38	1,221	244	.19	499	?.40
Washington.....	744	.....	...	122	.16	201	?.27	c1,391	102	.14	198	?.28
York.....	1,000	.....	...	141	.14	352	.35	906	162	.17	299	?.33
Millersburg, corp.....	398	.....	...	63	.16	206	.36	b 52	88	1.70	207	3.98
Middlebury, corp.....	502	.....	...	103	.20	182	?.26	.....	a 92	...	a 167	.....
Bristol, corp.....	661	.....	...	111	.16	172	.32	c 681	129	.19	259	?.38
Goshen, city.....	4,123	.....	...	643	.15	1,331	.29	3,138	630	.20	918	?.29
Elkhart, city.....	6,953	.....	...	1,333	.19	2,035	?.51	a3,262	578	.17	875	?.26
Total.....	33,443	7,635	.22	5,503	.16	11,205	.33	26,026	4,538	.17	9,486	?.36

Fayette County.

Columbia.....	803	.....	...	131	.16	229	?.28	929	146	.15	315	?.38
Connersville.....	1,432	.....	...	183	.15	312	?.28	1,211	176	.14	a 400	?.43
Fairview.....	639	.....	...	113	.17	155	?.24	601	110	.18	211	?.35
Harrison.....	999	.....	...	168	.16	297	.29	867	166	.19	309	?.34
Jackson.....	982	.....	...	175	.17	344	.35	1,186	170	.14	245	?.21
Jennings.....	846	.....	...	141	.16	283	.33	836	149	.18	267	?.32
Orange.....	812	.....	...	145	.17	269	.33	881	113	.18	268	?.30
Posey.....	981	.....	...	201	.20	234	?.23	947	189	.19	307	?.31
Waterloo.....	672	.....	...	117	.17	221	.32	671	122	.18	258	?.38
*East Connersville, corp..	.....	.....	...	37	...	98	...	.....	.....	...	a 118	.....
Connersville, city.....	3,228	.....	...	522	.16	1,061	.32	2,496	442	.17	1,006	?.40
Total.....	11,394	2,998	.25	1,933	.17	3,508	.31	10,476	1,782	.16	3,704	?.34

Floyd County.

New Albany.....	2,559	316	?.12	200	?.08	837	.32	2,277	232	?.10	768	?.33
Greenville.....	1,589	a 344	.22	232	.14	a 373	.35	1,814	239	.12	708	?.38
Georgetown.....	1,562	b 339	.22	a 186	.14	b 464	.34	1,492	198	.13	475	?.31
Lafayette.....	1,660	336	.22	149	?.09	637	.33	1,576	159	?.10	628	?.39
Franklin.....	797	183	.23	148	.18	236	.29	793	108	.13	316	?.39
Gorgetown, corp.....	.....	a.....	...	a 36	...	b 90	...	.....	.....	...	.....	.....
Greenville, corp.....	.....	b.....	...	.....	...	a 194	...	.....	.....	...	.....	.....
New Albany, city.....	16,422	3,845	.23	1,299	?.07	6,153	.37	15,396	1,657	?.10	7,114	?.46
Total.....	24,589	5,373	.21	2,250	?.09	8,984	.37	23,300	2,783	.12	10,007	?.46

* Uncertain whether the population of 1880 has been included in Connersville city, or Connersville township.

TABLE No. XXXV.—Continued.

Fountain County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Jackson	1,409	.....	...	236	.16	485	.34	1,321	197	.14	508	.38
Cain.....	1,795	.....	...	313	.17	558	.31	1,802	249	.13	498	?.27
Richland	1,913	.....	...	325	.16	681	.39	1,759	299	.17	656	.37
Davis.....	798	.....	...	116	.14	242	.30	663	72	?.10	178	?.26
Logan.....	537	.....	...	75	.13	194	.32	a2,608	95	?.27	255	?.10
Shawnee.....	1,096	.....	...	231	.21	371	.33	867	192	?.22	390	?.44
Van Buren	2,123	.....	...	314	.15	819	.38	522	245	?.46	516	?.98
Mill Creek.....	1,918	.....	...	315	?.11	624	.32	1,491	214	.14	574	.38
Fulton	1,145	.....	...	179	.14	408	.35	916	131	.14	323	.85
Wabash	2,283	.....	...	491	?.21	684	.29	1,284	187	.14	523	.40
Troy.....	1,141	.....	...	243	?.21	488	?.42	b3,156	219	?.07	549	?.17
Covington, corp.....	1,920	.....	...	308	.15	746	.38	b1,888	279	.14	548	.29
Attica, city.....	2,150	.....	...	383	.17	760	.35	a2,273	355	.15	757	.33
Total.....	20,228	5,165	.25	3,529	.17	7,060	.34	16,389	2,737	.16	6,275	.38

Franklin County.

Ray.....	2,141	.....	...	a 216	.13	a 652	?.50	2,070	240	?.11	722	.35
Highland.....	1,826	.....	...	233	.18	720	.39	1,796	183	?.10	662	.38
Springfield.....	1,376	.....	...	b 212	.18	b 364	.29	1,513	239	.15	414	?.27
Metamora	1,040	.....	...	169	.16	287	?.27	1,222	137	?.11	361	.29
Bath	751	.....	...	127	.17	253	.33	675	139	.20	288	?.43
Posey	1,039	.....	...	209	?.20	344	.33	974	121	.12	348	.35
Butler.....	1,402	.....	...	146	?.10	525	.37	1,488	174	?.11	567	.38
Brookville.....	2,501	.....	...	395	.15	798	.31	4,207	586	.13	a1,198	?.44
Fairfield.....	817	.....	...	121	.14	279	.34	845	131	.15	240	.29
White Water.....	1,519	.....	...	259	.17	555	.30	1,467	207	.14	545	.37
Bloomington.....	762	.....	...	118	.15	248	.32	801	115	.15	370	?.46
Laurel.....	1,865	.....	...	c 159	.13	c 404	.39	a2,036	190	.15	363	?.28
Salt Creek.....	1,239	.....	...	177	.14	500	.40	1,223	167	.13	531	?.43
Laurel, corp.....	.....	.....	...	c 85	...	c 327	...	a 741	.....	...	363	?.49
Mt. Carmel, corp.....	.....	.....	...	b 39	...	b45	...	.....	.....	...	.....	.....
Oldenburgh, corp.....	.....	.....	...	a 63	...	a 424	...	.....	.....	...	.....	.....
Brookville, city.....	1,812	.....	...	275	.15	751	?.41	.....	.....	...	a671	.....
Total	20,090	4,821	.24	3,003	.14	7,476	.36	20,223	2,629	.13	7,762	.38

Fulton County.

Wayne.....	1,282	.....	...	211	.17	440	.34	1,131	180	.15	476	?.42
Union	1,433	.....	...	a 210	.18	a 352	.34	1,200	192	.16	467	.39
Ambeenaubbee.....	871	.....	...	132	.15	288	.33	745	113	.15	289	.39
Richland	1,329	.....	...	214	.16	453	.34	1,314	193	.14	428	.32
Rochester.....	2,579	.....	...	402	.16	831	.32	a3,726	314	.14	880	.40
Liberty.....	1,628	.....	...	266	.16	586	.35	1,429	196	.13	507	.35
Henry.....	1,889	.....	...	218	.12	678	.36	1,919	305	.15	762	.39
New Castle	1,421	.....	...	279	.19	464	.32	1,262	201	.16	510	.40
Rochester, corp.....	1,869	.....	...	298	.16	738	.39	a1,528	292	.19	492	.33
Kewamla, corp.....	.....	.....	...	a 56	...	a 134	...	.....	.....	...	.....	.....
Total	14,301	3,616	.25	2,286	.14	4,964	.34	12,726	1,982	.15	4,813	.38

TABLE No. XXXV.—Continued.

Gibson County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Patoka	3,451	.....	...	583	.17	1,158	.83	a4 397	559	? 22	1,275	?50
Montgomery	3,180	.....	...	559	.17	1,170	.36	3,643	427	?11	1,114	.30
Johnson	3,211	.....	...	490	.15	1,047	.32	2,616	457	.17	996	.38
White River.....	2,636	.....	...	441	.17	821	.31	3,874	416	.12	797	?24
Barton	1,956	.....	...	293	.15	773	.39	1,626	252	.15	550	.34
Columbia.....	2,104	.....	...	320	.15	695	.33	2,238	320	.14	846	.38
Center.....	1,672	.....	...	259	.15	562	.33	.....	.....	.....	.....	.....
Washington	1,406	.....	...	243	.17	488	.84	757	172	?22	343	?45
Wabash	560	.....	...	93	.16	163	.29	442	62	.14	123	?28
Princeton, corp	2,566	.....	..	398	.16	1,025	.89	a1,847	289	?10	564	.30
Total.....	22,742	5,203	.22	8,679	.16	7,902	.34	17,371	3,003	.17	6,608	.37

Grant County.

Van Buren	1,651	.....	...	250	.15	545	.83	1,110	143	.12	436	.37
Washington	1,851	.....	...	219	.16	431	.31	1,139	179	.15	410	.36
Pleasant.....	1,643	.....	...	317	.19	592	.36	1,575	255	.16	638	.40
Richland	1,028	.....	...	154	.15	328	.31	1,065	146	.13	399	.37
Sims.....	1,185	.....	...	178	.15	368	.31	841	136	.16	352	?42
Frnklin	1,791	.....	...	295	.16	605	.33	1,471	210	.14	529	.36
Center.....	1,236	.....	...	197	.16	456	.87	a2,641	149	.15	349	.56
Mill	1,004	.....	...	162	.16	261	?26	b1,523	147	.15	294	.81
Monroe.....	1,287	.....	...	219	.16	443	.34	1,047	160	.15	392	.37
Jefferson.....	1,521	.....	...	290	.19	532	.35	1,398	244	.17	497	.36
Fairmont.....	1,239	.....	...	247	.19	504	.40	c1,573	234	.19	597	?48
Liberty.....	2,524	.....	...	395	.16	931	.37	1,989	255	.13	878	?44
Green.....	1,539	.....	...	248	.15	505	.32	1,115	175	.15	490	?44
Marion, corp.....	3,182	.....	...	530	.17	841	?26	a1,658	278	.16	565	.84
Jonesboro, corp.....	729	.....	...	132	.18	252	.34	b581	100	.18	287	?49
Fairmount, corp.....	563	.....	...	93	.17	280	?49	c337	.....	...	.....	.....
Harrisbng, corp.....	145	.....	...	28	.19	102	?70	.....	.....	...	.....	.....
Total.....	23,616	5,736	.24	3,954	.17	7,976	.33	18,487	2,811	.15	7,115	.33

Greene County.

Richland	2,563	.....	...	432	.17	943	.36	2,799	323	.12	827	.29
Taylor.....	1,589	.....	...	258	.16	608	.38	1,677	229	.13	646	.38
Jackson	2,515	.....	...	352	.13	952	.37	1,969	294	.15	801	.40
Center.....	1,977	.....	...	269	.13	637	.32	1,870	245	.13	747	.39
Beech Creek.....	2,068	.....	...	308	.14	806	.35	2,059	283	.13	816	.39
Highland	1,219	.....	...	192	.15	409	.33	1,321	195	.14	495	.37
Eel River.....	336	.....	...	59	.14	147	.40	501	84	.16	194	.38
Fairplay.....	830	.....	...	142	.17	276	.33	780	137	.18	303	.39
Smith	861	.....	...	153	.17	282	.32	670	117	.16	278	?41
Wright	1,534	.....	...	244	.16	587	.38	1,104	190	.18	600	?54
Stockton	1,372	.....	...	108	.18	543	.39	1,240	206	.16	451	.36
Stafford.....	1,141	.....	...	211	.18	420	.36	841	170	?20	371	?44
Washington	1,484	.....	...	251	.17	506	.34	?640	230	?36	415	?67
Cass	818	.....	...	152	.18	241	.29	819	136	.15	259	.31
Jefferson.....	1,907	.....	...	a107	.14	a185	.35	1,348	205	.15	485	.36
Grant	782	.....	...	132	.16	274	.35	532	82	.15	219	?41
Worthington, corp .....	.....	.....	...	a177	...	a495	...	.....	.....	...	.....	.....
Total	22,996	5,076	.22	3,537	.15	8,311	.36	19,514	3,126	.16	7,907	.39

TABLE No. XXXV.—Continued.

Hamilton County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Noblesville.....	2,332	.....	...	407	.17	648	.28	3,568	301	.14	707	.33
Washington.....	4,058	.....	...	a 384	.12	a1,078	.31	3,590	468	.15	a1,254	?.42
Clay.....	1,534	.....	...	248	.15	446	.29	1,413	211	.14	389	?.27
Delaware.....	1,822	.....	...	827	.18	691	.37	1,434	247	.17	523	.36
Fall Creek.....	1,777	.....	...	303	.17	552	.31	1,530	244	.16	563	.36
Wayne.....	1,639	.....	...	b 252	.16	b 433	.31	1,898	a 209	.15	c 414	.29
White River.....	2,112	.....	...	372	.17	721	.34	2,047	280	.14	769	.37
Jackson.....	4,344	.....	...	c 606	.17	cl,303	.36	3,724	516	.14	1,068	.29
Adams.....	2,970	.....	...	477	.17	1,106	.34	2,178	313	.14	b 742	.38
Noblesville, corp.....	2,221	.....	...	394	.18	767	.34	1,435	225	.15	618	?.43
Carmel, corp.....	.....	.....	...	a 48	...	.....	...	.....	.....	...	.....	.....
Westfield, corp.....	.....	.....	...	a 71	...	a 193	...	608	65	.11	137	?.22
Eagletown, corp.....	.....	.....	...	.....	...	.....	...	.....	.....	...	a 47	.....
Cicero, corp.....	.....	.....	...	c 133	...	c 273	...	422	56	.13	198	?.47
Boxley, corp.....	.....	.....	...	.....	...	.....	...	.....	.....	...	b 94	.....
Clarksville, corp.....	.....	.....	...	b 18	...	b 73	...	.....	a 6	...	c 92	.....
Total.....	24,809	5,868	.24	4,240	.17	8,284	.38	20,882	3,141	.15	7,615	.36

Hancock County.

Blue River.....	1,258	.....	...	230	.18	385	.30	1,125	168	.14	430	.38
Buck Creek.....	1,466	.....	...	266	.18	474	.32	1,227	176	.14	420	.34
Brandywine.....	1,216	.....	...	210	.17	416	.34	1,061	166	.16	379	.36
Brown.....	1,400	.....	...	246	.17	507	.36	1,329	203	.15	514	.38
Center.....	4,284	.....	...	a 373	.19	a 770	.39	a3,495	329	.14	754	.33
Green.....	1,166	.....	...	221	.19	384	.33	1,177	190	.16	388	.33
Jackson.....	1,928	.....	...	b 256	.16	b 449	.31	b1,967	243	.16	543	.36
Sugar Creek.....	2,099	.....	...	c 286	.16	700	.36	1,897	290	.15	690	.37
Vernon.....	2,306	.....	...	243	.10	586	.25	c2,131	a 232	.12	712	?.41
Charlottsville, corp.....	.....	.....	...	b 70	...	b 163	...	b 414	72	.17	150	.26
New Palestine, corp.....	.....	.....	...	c 65	...	.....	...	.....	.....	...	.....	.....
Fortville, corp.....	.....	.....	...	a 121	...	a 228	...	e 387	a 59	.16	.....	.....
Greenfield, city.....	.....	.....	...	a 321	...	a 682	...	a1,203	202	.16	417	.34
Total.....	17,123	4,170	.24	2,904	.16	5,744	.32	15,123	2,325	.15	5,497	.37

Harrison County.

Harrison.....	2,799	420	.15	984	.35	a3,462	449	.17	1,007	.37
Boone.....	2,097	.....	...	293	.14	840	?.40	1,870	268	.14	673	.36
Heth.....	1,729	.....	...	253	.14	781	?.42	1,615	253	.15	588	.36
Posey.....	1,978	.....	...	a 249	.15	a 638	?.42	b1,774	218	.14	550	.36
Franklin.....	1,664	.....	...	b 189	.14	b 618	?.44	cl,402	175	.12	542	.39
Jackson.....	1,497	.....	...	207	.13	583	.39	1,400	200	.14	562	.40
Morgan.....	1,391	.....	...	221	.16	564	.40	1,426	181	.12	516	.36
Spencer.....	1,320	.....	...	149	?.11	526	.39	1,310	184	.14	497	.38
Webster.....	1,211	.....	...	146	.12	501	?.41	1,025	126	.12	349	.34
Blue River.....	1,245	.....	...	169	.13	454	.36	1,199	173	.15	464	.38
Taylor.....	1,816	.....	...	189	.14	453	.34	1,259	171	.18	533	?.42

TABLE No. XXXV.—Continued.

Harrison County.—Continued.

Townships, Cities and Towns.	Ratios to Population in 1880.						Ratios to Population, 1870.					
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Washington.....	1,282	.....	...	195	.15	477	.37	1,176	175	.15	440	.38
Scott	1,034	.....	...	146	.14	394	.38	996	130	.13	364	.36
Corydon, corp.....	763	.....	...	124	.16	335	.43	a 747	96	.13	112	.15
Elizabeth, corp.....	.....	.....	...	a 48	...	a 194	...	b 216	34	.16	123	.57
Lanesville, corp.....	.....	.....	...	b 44	...	b 122	...	c 157	40	.25	101	.64
Total,	21,306	4,449	.21	3,042	.14	8,414	.89	19,913	2,878	.14	7,631	.88

Hendricks County.

Center.....	1,657	.....	...	293	.17	487	.29	2,795	285	.15	496	.34
Washington	1,502	.....	...	270	.17	533	.35	1,502	259	.17	599	.39
Gilford	2,686	.....	...	386	.14	793	.29	2,988	292	.21	709	.51
Liberty	2,603	.....	...	418	.16	918	.35	2,742	374	.13	969	.35
Franklin	1,363	.....	...	212	.15	430	.31	a 1,316	219	.16	344	.22
Clay.....	1,965	.....	...	309	.15	636	.32	1,571	262	.16	a 353	.32
Marion.....	1,298	.....	...	241	.19	400	.30	1,387	205	.15	411	.29
Eel River.....	1,998	.....	...	371	.18	744	.37	1,937	284	.13	569	.29
Union	1,545	.....	...	242	.15	557	.36	1,326	205	.15	496	.37
Browne.....	1,322	.....	...	193	.14	509	.38	1,238	200	.16	416	.33
Lincoln.....	1,610	.....	...	a 165	.16	a 255	.34	b 1,502	a 234	.17	520	.34
Middle.....	1,828	.....	...	297	.16	600	.32	1,623	225	.13	500	.31
Coatsville, corp.....	.....	.....	...	.....	...	.....	...	.....	.....	...	a 139	.....
Danville, corp.....	1,598	.....	...	234	.15	525	.32	1,040	163	.15	484	.46
Stilesville, corp.....	.....	.....	...	.....	...	.....	...	a 205	.....	...	.....	.....
Brownsburg, corp.....	.....	.....	...	a 107	...	a 297	...	b 551	a.....	...	141	.26
Total	22,975	5,430	.24	3,738	.16	7,684	.33	20,277	3,207	.15	7,146	.35

Henry County.

Wayne.....	3,251	.....	...	a 240	.16	a 467	.31	a 3,318	315	.18	532	.29
Franklin	1,516	.....	...	b 175	.17	b 290	.28	d 1,579	163	.17	334	.35
Dudley	1,544	.....	...	249	.18	500	.32	1,339	231	.17	425	.31
Liberty.....	1,839	.....	...	320	.17	582	.31	1,884	313	.16	610	.32
Henry.....	1,857	.....	...	225	.17	449	.33	b 2,818	167	.12	428	.34
Greensboro	1,444	.....	...	b 171	.16	h 309	.33	1,488	a 162	.20	a 375	.34
Harrison	1,914	.....	...	c 246	.16	c 535	.35	1,888	b 262	.14	b 529	.34
Fall Creek.....	2,054	.....	...	d 252	.17	d 487	.34	e 2,005	214	.16	395	.31
Prairie	1,708	.....	...	e 278	.18	e 505	.34	1,623	271	.14	528	.29
Stony Creek.....	947	.....	...	167	.18	334	.65	1,112	185	.12	373	.33
Spiceland.....	2,039	.....	...	f 190	.15	f 379	.21	f 2,014	214	.13	519	.31
Jefferson.....	1,298	.....	...	g 168	.17	g 341	.21	c 1,234	145	.15	454	.46
Blue River.....	805	.....	...	159	.20	278	.34	862	125	.14	353	.41
Dunreith, corp.....	.....	.....	...	f 32	...	f 58	...	.....	.....	...	.....	.....
Cadiz, corp.....	.....	.....	...	c 62	...	c 148	...	.....	b 23	...	b 120	.....
Knightstown, corp.....	.....	.....	...	a 285	...	a 552	...	a 1,528	216	.14	537	.35
New Castle, corp.....	2,299	.....	...	380	.17	725	.31	b 1,556	235	.15	517	.33
Mt. Summit, corp.....	.....	.....	...	e 37	...	e 85	...	108	.....	...	.....	.....
Sulphur Springs, corp.....	.....	.....	...	g 48	...	g 133	...	c 246	103	.41	112	.45
Lewisville, corp.....	.....	.....	...	b 86	...	b 141	...	d 416	71	.17	173	.41
Middleton, corp.....	.....	.....	...	d 91	...	d 223	...	e 711	93	.18	263	.37
Greensboro, corp.....	.....	.....	...	h 53	...	h 179	...	.....	a 48	...	a 149	.....
Spiceland, corp.....	.....	.....	...	f 82	...	f 282	...	f 370	218	.58	101	.28
Total	24,015	6,048	.25	4,029	.17	7,983	.33	22,988	3,495	.15	7,827	.34

TABLE No. XXXV.—Continued.

Howard County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Center.....	5,619	.....	...	a 247	.19	a 398	.30	2,867	180	? .27	385	? .57
Clay.....	1,840	.....	...	208	.15	509	.38	1,850	184	.13	400	.29
Ervin.....	2,159	.....	...	399	.18	703	.32	1,316	288	? .22	613	? .46
Harrison.....	1,086	.....	...	187	.18	393	.36	807	161	.20	379	? .47
Honey Creek.....	1,110	.....	...	185	.16	377	.34	892	129	.14	336	.38
Howard.....	1,328	.....	...	220	.16	482	.36	1,707	216	.12	553	.32
Jackson.....	1,018	.....	...	176	.16	332	.32	1,000	141	.14	296	.29
Liberty.....	1,580	.....	...	b 275	.19	b 455	? .42	1,697	219	.13	574	.34
Monroe.....	1,159	.....	...	197	.17	432	.38	1,131	161	.14	873	.33
Taylor.....	1,480	.....	...	254	.17	507	.34	1,745	226	.13	693	.34
Union.....	1,805	.....	...	c 283	.17	c 518	.31	1,745	249	.14	657	.32
Greentown, corp.....	.....	.....	...	b 37	...	b 116	...	.....	.....	...	.....	.....
Jerome, corp.....	.....	.....	...	c 25	...	c 55	...	.....	.....	...	.....	.....
Kokomo, city.....	.....	.....	...	a 799	...	a 1,322	...	2,177	.....	...	838	.38
Total.....	19,384	4,870	.25	3,492	.18	6,599	.34	15,847	2,618	.16	5,897	.37

Huntington County.

Jackson.....	1,458	.....	...	213	.17	441	.30	2,257	235	.14	931	? .57
Clear Creek.....	1,164	.....	...	248	? .21	514	? .44	1,273	149	? .11	566	? .44
Warren.....	1,361	.....	...	197	.14	457	.34	951	165	.17	366	.38
Dallas.....	979	.....	...	149	.15	252	? .25	a 1,483	221	? .21	263	? .25
Huntington.....	1,612	.....	...	240	.14	482	.29	b 4,449	588	? .38	804	? .54
Union.....	1,290	.....	...	248	.19	545	? .42	1,016	170	.15	349	? .24
Rock Creek.....	1,834	.....	...	314	.17	564	.30	1,857	256	.13	605	.32
Lancaster.....	1,782	.....	...	298	.16	552	.31	c 1,492	211	.16	589	.33
Polk.....	1,167	.....	...	a 202	? .21	a 382	.40	960	143	.15	293	.30
Wayne.....	963	.....	...	179	.18	362	.37	894	132	.14	311	.34
Jefferson.....	1,464	.....	...	254	.17	504	.33	1,227	184	.14	423	.33
Salamonie.....	a 1,314	.....	...	305	? .23	610	.83	d 1,485	208	.17	616	? .55
Roanoke, corp.....	597	.....	...	105	.18	274	? .46	627	.....	...	.....	.....
Warren, corp.....	a 503	.....	...	23	? .04	.....	...	d 358	.....	...	.....	.....
Antioch, corp.....	454	.....	...	68	.13	224	? .49	a 449	.....	...	238	? .53
Mt. Etna, corp.....	.....	.....	...	a 46	...	a 88	...	c 221	.....	...	.....	.....
Huntington, city.....	3,863	.....	...	618	.16	1,220	.31	b 2,925	.....	...	707	? .24
Total.....	21,805	5,344	.25	3,707	.17	7,471	.34	19,036	2,667	.14	7,061	.37

Jackson County.

Driftwood.....	982	.....	...	151	.15	388	.39	922	144	.13	314	.34
Grassy Fork.....	1,045	.....	...	185	.17	413	.39	1,188	155	? .10	455	.35
Brownstown.....	3,165	.....	...	a 394	.16	a 782	.33	a 2,580	a 324	.12	a 1,023	.39
Washington.....	1,001	.....	...	158	.15	419	? .41	960	118	.12	360	.39
Jackson.....	1,299	.....	...	186	.14	345	? .27	1,137	157	.12	392	? .24
Redding.....	1,690	.....	...	288	.17	542	.32	1,525	228	.14	603	.32
Vernon.....	1,897	.....	...	343	.17	668	.35	1,508	211	.13	587	.38
Hamilton.....	1,924	.....	...	313	.16	581	.30	1,565	236	.14	619	.38
Carr.....	1,783	.....	...	280	.15	588	.33	1,665	257	.15	566	.33
Owen.....	1,698	.....	...	251	.14	653	.38	1,589	242	.16	643	.40
Salt Creek.....	2,316	.....	...	361	.15	840	.36	1,963	277	.17	810	? .42
Brownstown, corp.....	.....	.....	...	a 124	...	a 262	...	a 572	.....	...	.....	.....
Seymour, city.....	4,250	.....	...	661	.14	1,461	.34	2,372	405	.17	816	.34
Total.....	23,050	5,223	.23	3,695	.16	7,942	.34	18,974	2,754	.15	7,178	.38

TABLE No. XXXV.—Continued.

Jasper County.

Townships, Cities and Towns.	Ratios to Population in 1890.							Ratios to Population, 1870.				
	Population, 1890.	Voters, 1890.	Per cent. of Population.	Taxable Polls, 1890.	Per cent. of Population.	Enumerated School Chil- dren, 1890.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Marion.....	1,939	.....	...	a 186	.17	a 370	.37	a1,629	169	.16	358	.35
Carpenter.....	2,088	.....	...	b 239	.18	b 361	.32	b1,081	123	.18	222	.32
Jordan.....	669	.....	...	113	.17	258	.38	327	67	.17	170	?.51
Barkley.....	1,018	.....	...	153	.15	346	.34	832	126	.16	340	.40
Gillam.....	681	.....	...	112	.16	276	.40	625	92	.14	229	.34
Walker.....	521	.....	...	72	.13	204	.39	281	40	.14	95	.34
Newton.....	576	.....	...	85	.14	204	.35	468	74	.18	146	.31
Hanging Grove.....	448	.....	...	80	.18	153	.34	393	55	.14	158	.40
Union.....	408	.....	...	68	.16	169	?.41	196	35	.17	74	.37
Milroy.....	230	.....	...	42	.18	91	.39	123	19	.16	62	?.50
Keener.....	341	.....	...	66	.19	107	.81	71	11	.16	33	?.47
Wheatfield.....	238	.....	...	.....	...	85	.85	103	18	.17	45	?.43
Kankakee.....	288	.....	...	45	.16	99	.34	215	38	.17	79	.36
Remington, corp.....	.....	.....	...	b 135	...	b 316	...	b 390	86	?.22	135	.36
Rensselaer, corp.....	.....	.....	...	a 162	...	a 357	...	a 617	102	.16	290	?.46
Total.....	9,465	2,288	.24	1,558	.16	3,396	.35	6,354	1,045	.15	2,436	.33

Jay County.

Richland.....	1,374	.....	...	248	.18	491	.36	1,342	232	.13	281	?.20
Knox.....	840	.....	...	144	.17	300	.36	685	89	.12	330	?.48
Penn.....	a 1,213	.....	...	301	.17	600	.35	1,441	201	.13	a 334	.33
Jefferson.....	1,757	.....	...	272	.16	648	.37	1,640	259	.16	559	.34
Greene.....	1,444	.....	...	227	.16	534	.37	1,115	144	.12	435	.39
Jackson.....	1,299	.....	...	226	.17	424	.32	989	130	.13	362	.36
Pike.....	1,750	.....	...	266	.15	608	.34	1,585	218	.12	598	.37
Wayne.....	3,094	.....	...	a 246	.16	a 504	.29	a1,526	156	.15	341	.32
Bear Creek.....	1,637	.....	...	284	.17	600	.37	1,247	179	.14	443	.35
Madison.....	1,371	.....	...	173	.12	458	.34	1,279	189	.14	469	.36
Noble.....	1,321	.....	...	b 232	?.11	b 446	.38	1,218	186	.15	473	.38
Wabash.....	1,024	.....	...	132	.12	406	.39	938	124	.15	.....	.....
Portland, corp.....	.....	.....	...	a 219	...	a 414	...	a 462	73	.18	168	.36
Dunkirk, corp.....	662	.....	...	124	.18	221	.33	.....	.....	...	.....	.....
Oamden, corp.....	a 497	.....	...	.....	...	.....	...	.....	.....	...	a 148	.....
Salamonie, corp.....	.....	.....	...	b 26	...	b 61	...	.....	.....	...	.....	.....
Total.....	19,280	4,549	.23	3,120	.16	6,715	.36	15,000	2,190	.14	4,941	.32

Jefferson County.

Madison.....	a 3,781	.....	...	560	.12	2,118	?.46	a4,865	341	.14	1,806	?.47
Milton.....	1,913	.....	...	a 270	.15	a 553	.32	1,975	252	.12	681	.34
Shelby.....	1,749	.....	...	256	.14	630	.36	1,890	253	.13	636	.33
Lancaster.....	1,307	.....	...	208	.15	439	.33	1,442	186	.12	375	?.25
Republican.....	1,056	.....	...	155	.14	348	.33	1,434	157	.14	411	.37
Graham.....	1,309	.....	...	225	.17	442	.33	1,408	174	.12	462	.32
Saluda.....	1,649	.....	...	259	.16	547	.33	1,682	183	?.11	598	.35
Hanover.....	1,143	.....	...	b 122	.14	b 251	.33	b1,899	81	?.09	145	?.17
Monroe.....	1,362	.....	...	192	.14	491	.36	1,760	171	?.09	549	.31
Smyrna.....	961	.....	...	163	.16	302	.31	1,486	131	?.09	293	?.19

TABLE No. XXXV.—Continued.

Jefferson County.—Continued.

Townships, Cities and Towns.	Ratios to Population in 1890.						Ratios to Population, 1870.					
	Population, 1890.	Voters, 1890.	Per cent. of Population.	Taxable Polls, 1890.	Per cent. of Population.	Enumerated School Chil- dren, 1890.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Brooksburg, corp.....	.....	.....	.....	a 20	.....	a 75	.....	.....	.....	.....	.....	.....
Hanover, corp.....	.....	.....	.....	b 47	.....	b 129	.....	b 664	45	7.06	177	31
North Madison.....	a 802	.....	.....	.....	.....	.....	.....	a1,007	.....	.....	.....	.....
Madison, city.....	6,945	.....	.....	923	7.10	5,420	7.60	10,709	930	7.09	4,447	7.41
Total.....	26,377	6,083	.23	3,400	.13	11,745	7.44	39,741	2,977	7.10	10,570	.36

Jennings County.

Bigger.....	1,106	.....	.....	165	.14	393	.36	945	128	.13	396	.31
Campbell.....	1,474	.....	.....	280	.15	561	.37	1,563	194	.13	645	7.41
Columbia.....	1,471	.....	.....	207	.14	469	.31	1,272	167	.13	426	.33
Geneva.....	2,103	.....	.....	334	.15	722	.34	2,037	254	.12	725	.35
Marion.....	1,071	.....	.....	180	.15	344	.32	1,200	189	.15	499	7.41
Montgomery.....	770	.....	.....	118	.15	261	.34	1,326	197	.14	496	.38
Sand Creek.....	967	.....	.....	148	.15	364	.35	930	130	.14	399	7.43
Spencer.....	1,803	.....	.....	267	.14	626	.34	1,927	271	.14	713	.37
Vernon.....	1,042	.....	.....	a176	.14	a 487	.36	a2,835	198	7.11	536	.31
Center.....	910	.....	.....	75	7.08	321	.35	b2,633	78	7.09	310	.35
Lovett.....	904	.....	.....	151	.15	366	.36	.....	.....	.....	.....	.....
Vernon, city.....	.....	.....	.....	a105	.....	a 271	.....	a673	105	.15	268	.39
North Vernon, city.....	1,842	.....	.....	255	.13	660	.35	b1,768	356	.20	667	.37
Total.....	16,453	3,386	.23	2,401	.16	5,773	.35	16,818	2,363	.14	6,079	.37

Johnson County.

Blue River.....	900	.....	.....	185	.17	315	.....	a2,573	116	.15	256	.38
Clark.....	1,486	.....	.....	377	.19	484	.33	1,447	206	.14	515	.35
Franklin.....	2,779	.....	.....	368	.13	801	.29	b2,903	467	.15	970	.33
Hensley.....	1,712	.....	.....	289	.16	632	.36	1,668	268	.16	b 560	.33
Nineveh.....	1,689	.....	.....	238	.17	610	.36	1,650	243	.14	526	.31
Total.....	8,766	.....	.....	1,255	.27	2,042	.30	7,333	1,190	.24	2,827	.37

TABLE No. XXXV.—Continued.

Knox County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Busseron	1,804	.....	...	267	.14	539	.29	1,283	170	.13	425	.33
Widner	1,789	.....	...	261	.14	762	?.42	1,704	212	.12	685	.40
Vigo	a 2,414	.....	...	551	.17	1,652	?.51	2,426	408	.17	869	.36
Washington	1,651	.....	...	232	.14	600	.30	1,537	215	.14	577	.37
Palmyra	1,278	.....	...	232	.17	481	.37	1,269	200	.15	457	.36
Harrison	2,864	.....	...	489	.18	932	.32	2,812	398	.14	1,002	.35
Johnson	1,783	.....	...	281	.15	785	?.44	1,543	224	.14	636	?.41
Vincennes	1,728	.....	...	236	.13	605	.35	a1,426	136	?.09	558	.39
Decker	933	.....	...	165	.17	298	.32	837	123	.14	275	.32
Steen	1,216	.....	...	243	.19	410	.33	1,285	214	.16	485	.37
Monroe City, corp	401	.....	...	71	.17	256	?.61	.....	.....	...	.....	.....
Edwardsport	a 782	.....	...	.....	...	.....	...	.....	.....	...	.....	.....
Vincennes, city	7,680	.....	...	1,205	.15	3,766	?.49	a5,440	573	?.11	1,940	.35
Total	26,323	6,137	.24	4,233	.16	10,986	?.42	21,562	2,868	.13	7,909	.36

Kosciusko County.

Jackson	1,028	.....	...	172	.16	303	.29	1,043	165	.16	410	.39
Monroe	1,026	.....	...	181	.17	360	.35	990	150	.15	357	.38
Washington	1,398	.....	...	241	.18	487	.35	b2,288	244	.19	473	.38
Tippecanoe	1,323	.....	...	166	.12	483	.32	1,323	158	?.11	500	.38
Turkey Creek	1,615	.....	...	197	.12	518	.32	1,563	196	.12	442	?.28
Van Buren	1,574	.....	...	217	.13	532	.33	1,899	224	?.11	510	?.21
Plain	1,113	.....	...	199	.17	341	.30	d1,698	173	.13	526	.35
Wayne	1,654	.....	...	240	.15	559	.33	c3,664	226	.16	559	.38
Clay	1,153	.....	...	209	.18	370	.32	1,973	347	.17	713	.36
Lake	848	.....	...	150	.17	223	?.26	.....	.....	...	.....	.....
Seward	1,421	.....	...	218	.14	502	.35	1,353	183	.13	509	.37
Franklin	1,302	.....	...	242	.18	427	.32	1,280	207	.16	536	?.41
Harrison	1,803	.....	...	274	.14	637	.35	1,745	222	.12	791	?.45
Prairie	1,205	.....	...	224	.18	432	.35	1,248	209	.17	385	.31
Jefferson	1,859	.....	...	a 178	.17	a 443	.39	711	96	.13	309	?.43
Scott .....	.....	.....	...	a 144	...	a 283	...	700	107	.15	313	?.41
Etna	688	.....	...	112	.16	291	?.42	a1,007	142	?.23	375	?.61
Pierceton, corp	1,084	.....	...	192	.17	344	.31	b1,063	177	.16	372	.35
Leesburg, corp	354	.....	...	97	?.24	177	?.50	d 320	.....	...	.....	.....
Etna Grove, corp	388	.....	...	58	.15	152	.39	a 397	.....	...	.....	.....
Silver Lake, corp	534	.....	...	111	.20	187	.35	.....	.....	...	.....	.....
Warsaw, city	3,122	.....	...	568	.18	1,014	.32	c 2,206	372	.16	743	.33
Total	26,492	6,460	.24	4,455	.16	9,015	.34	23,531	3,598	.15	8,823	.37

Lagrange County.

Van Buren	1,376	.....	...	204	.14	514	.37	1,347	216	.16	487	.35
Newburg	1,392	.....	...	234	.16	420	.30	1,159	182	.15	397	.33
Eden	1,111	.....	...	191	.17	368	.33	930	190	.14	342	.36
Olear Spring	1,367	.....	...	270	.19	451	.32	1,223	189	.15	465	.38
Clay	1,408	.....	...	230	.16	453	.32	1,248	162	.13	446	.35
Lima	1,336	.....	...	182	.13	470	.35	2,067	218	?.10	573	?.25
Bloomfield	1,080	.....	...	161	.14	319	.29	1,216	153	.13	327	?.27

TABLE No. XXXV.—Continued.

Lagrange County.—Continued.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Johnson	1,563	.....	...	283	.18	591	.37	1,322	203	.15	456	.34
Millford	1,311	.....	...	207	.15	470	.35	1,288	181	.14	471	.36
Springfield	1,017	.....	...	210	.20	307	.30	923	138	.14	311	.33
Greenfield.....	1,181	.....	...	176	.14	352	.29	1,078	172	.16	334	.31
La Grange, corp.....	1,487	.....	...	204	.13	421	.28	1,038	176	.17	325	.31
Total.....	15,629	3,810	.24	2,552	.16	5,136	.33	14,148	2,120	.15	4,888	.34

Lake County.

North	2,541	.....	...	280	.11	793	.33	1,593	199	.12	505	.31
Hobart.....	1,650	.....	...	223	.13	661	.40	1,037	152	.14	340	.32
Ross.....	1,584	.....	...	226	.14	554	.34	1,625	219	.13	601	.37
St. Johns.....	1,511	.....	...	169	.11	579	.38	1,442	179	.12	608	.42
Center.....	1,146	.....	...	151	.13	437	.38	1,932	a 122	.15	a 308	.38
Winfield.....	544	.....	...	101	.18	204	.37	516	164	.31	243	.47
Hanover.....	1,009	.....	...	119	.11	386	.33	973	121	.12	356	.38
West Creek.....	1,219	.....	...	198	.16	382	.31	1,158	156	.13	416	.36
Eagle Creek.....	721	.....	...	121	.17	213	.29	787	120	.16	266	.37
Cedar Creek.....	1,457	.....	...	223	.15	474	.32	1,326	235	.17	559	.42
Crown Point, corp.....	1,709	.....	...	233	.13	677	.39	.....	a 169	...	a 425	....
Total.....	15,091	3,321	.22	2,044	.13	5,860	.34	12,839	1,736	.14	4,627	.37

Laporte County.

Hudson.....	549	.....	...	98	.17	196	.35	636	87	.13	303	.31
Galena	939	.....	...	183	.19	224	.24	867	168	.19	257	.29
Springfield.....	1,076	.....	...	243	.23	377	.35	1,072	133	.12	377	.35
Michigan.....	406	.....	...	68	.14	125	.30	703	59	.08	127	.18
Cool Spring.....	1,549	.....	...	213	.13	437	.28	1,328	222	.16	428	.32
Center.....	1,404	.....	...	209	.14	389	.27	1,147	204	.18	278	.24
Kankakee	1,163	.....	...	239	.20	306	.26	1,185	207	.17	400	.32
Wills	855	.....	...	168	.19	328	.38	884	118	.13	357	.31
Pleasant.....	574	.....	...	94	.16	159	.28	814	135	.16	268	.32
Union	1,205	.....	...	207	.16	413	.34	585	92	.15	183	.31
Scipio	745	.....	...	105	.14	194	.26	856	132	.15	248	.28
Noble.....	1,154	.....	...	183	.15	374	.32	1,008	145	.14	290	.28
New Durham.....	2,011	.....	a	224	.15	a 420	.34	1,344	179	.13	366	.27
Clinton.....	820	.....	...	139	.15	285	.34	797	112	.14	272	.34
Cass.....	1,398	.....	...	183	.13	473	.33	1,214	202	.16	429	.35
Dewey.....	238	.....	...	41	.17	85	.35	202	26	.12	53	.26
Hanna.....	595	.....	...	90	.15	169	.28	486	89	.16	135	.28
Lincoln.....	524	.....	...	73	.14	225	.42	558	69	.12	214	.37
Johnson	218	.....	...	39	.18	70	.32	170	22	.12	70	.41
Westville, corp.....	.....	.....	a	85	....	a 283	....	640	93	.14	288	.45
Michigan, city	7,368	.....	...	826	.11	2,100	.28	3,985	592	.15	1,345	.33
Laporte, city.....	6,195	.....	...	952	.15	3,476	.56	6,581	1,114	.17	1,757	.26
Total.....	30,976	7,632	.24	4,653	.15	11,108	.35	27,062	4,204	.15	8,345	.35

TABLE No. XXXV.—Continued.

Lawrence County.

Townships, Cities and Towns.	Ratios to Population in 1880.						Ratios to Population, 1870.					
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Flinn.....	927	.....	...	143	.15	324	.34	967	151	.15	324	.33
Pleasant Run.....	1,766	.....	...	256	.14	642	.36	1699	216	?.30	555	?.79
Perry.....	909	.....	...	120	.13	271	?.28	982	91	?.09	337	.34
Indian Creek.....	1,643	.....	...	379	?.23	545	.33	1,898	196	.14	451	.32
Spice Valley.....	2,121	.....	...	315	.14	803	.37	1,939	284	.14	621	.32
Marion.....	1,640	.....	...	244	.14	690	?.42	3,006	250	.13	614	.32
Bono.....	1,024	.....	...	145	.14	355	.34	1,005	165	.16	351	.34
Shawswick.....	1,528	.....	...	228	.14	674	?.44	2,560	a 281	?.11	a 678	?.27
Marshall.....	972	.....	...	146	.15	838	.34	830	127	.15	307	.37
Guthrie.....	1,224	.....	...	171	.14	412	.36	1,292	191	.15	399	.30
Mitchell, corp.....	2,349	.....	...	127	?.05	586	?.24	1,087	166	.15	434	.39
Bedford, corp.....	2,488	.....	...	267	?.10	792	.32	.....	a 251	....	a 542	....
Total.....	18,646	3,951	21	2,541	.13	6,492	.34	14,628	2,369	.15	5,683	.35

Madison County.

Adams.....	1,663	.....	...	274	.16	535	.82	1,782	247	.13	500	.29
Anderson.....	2,011	.....	...	330	.16	835	?.41	4,713	660	.13	671	?.14
Boone.....	1,808	.....	...	205	.15	503	.38	1,118	167	.14	474	?.42
Duck Creek.....	1,110	.....	...	180	.16	341	.30	789	106	.13	314	.39
Fall Creek.....	2,479	.....	...	a 328	.20	a 596	.34	2,685	202	.12	680	?.42
Greene.....	1,099	.....	...	190	.17	384	.34	1,030	151	.14	259	?.25
Jackson.....	1,423	.....	...	230	.16	537	.37	1,314	202	.15	496	.37
Lafayette.....	1,626	.....	...	266	.16	528	.32	1,452	225	.15	495	.34
Monroe.....	2,652	.....	...	b 375	.17	b 758	.37	a 2,221	823	.16	877	.35
Pipe Creek.....	2,958	.....	...	c 300	.16	c 646	.37	b 2,300	817	.18	886	.31
Richland.....	985	.....	...	187	.18	349	.35	1,065	155	.14	441	?.41
Stony Creek.....	1,483	.....	...	246	.16	454	.39	1,178	165	.14	350	.30
Union.....	917	.....	...	155	.14	257	?.28	1,054	124	?.11	a 196	.29
Van Buren.....	1,691	.....	...	330	.19	437	?.26	874	166	.18	260	.29
Alexandria, corp.....	.....	.....	...	b 90	...	b 225	...	a 287	.....	...	.....	.....
Obesterfield, corp.....	.....	.....	...	.....	...	.....	...	.....	.....	...	a 116	.....
Elwood, corp.....	.....	.....	...	c 95	...	c 307	...	b 310	.....	...	.....	.....
Frankton, corp.....	.....	.....	...	c 65	...	c 155	...	b 270	.....	...	.....	.....
Pendleton, corp.....	.....	.....	...	a 190	...	a 249	...	675	.....	...	264	.39
Anderson, city.....	4,126	.....	...	660	.16	1,452	.35	3,126	.....	...	830	?.26
Total.....	27,531	6,558	.24	4,696	.17	9,548	.34	22,770	3,410	.15	8,109	.35

Marion County.

Pike.....	2,423	593	.24	369	.14	830	.84	2,206	325	.14	827	.37
Washington.....	2,399	585	.24	450	.18	819	.82	2,565	372	.14	843	.32
Lawrence.....	2,579	637	.25	426	.16	808	.31	2,860	357	.15	854	.36
Warren.....	3,107	720	.23	a 452	.15	a 996	.40	2,567	329	.13	988	.38
Center.....	5,574	1,311	.24	870	.15	1,239	?.22	4,274	499	?.11	1,675	.39
Wayne.....	4,770	1,008	.21	723	.15	1,265	?.26	3,738	484	.13	1,002	?.26
Decatur.....	1,647	405	.25	250	.15	648	.39	1,559	226	.14	559	.35
Perry.....	2,598	620	.24	435	.16	850	.32	2,452	389	.15	865	.35
Franklin.....	2,609	620	.23	402	.15	852	.32	2,986	406	.14	743	?.34
Irrington, corp.....	.....	.....	...	a 33	...	a 247	...	.....	.....	...	.....	.....
Indianapolis, city.....	75,074	19,753	.26	13,105	.17	26,789	.35	48,244	5,737	.12	12,383	?.25
Total.....	102,780	26,252	.25	17,515	.17	35,343	.34	71,938	9,124	.13	20,738	?.28

TABLE No. XXXV.—Continued.

Marshall County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.
Union	1,889	.....	...	194	.14	503	.36	1,335	204	.15	504	.37
Center.....	2,563	.....	...	413	.16	916	.35	4,830	403	.17	954	.40
Greene.....	1,249	.....	...	205	.16	439	.34	1,097	152	.14	407	.36
Bourbon.....	3,199	.....	...	a 302	.15	a 822	.38	2,794	254	.13	708	.37
Tippecanoe	1,430	.....	...	243	.17	486	.34	1,165	207	.18	454	.38
German.....	3,350	.....	...	b 316	.18	b 700	.29	2,233	336	.15	758	.33
North	1,727	.....	...	276	.16	639	.37	1,484	235	.15	634	.42
Polk.....	1,980	.....	...	332	.16	664	.33	1,812	272	.15	643	.39
West.....	1,770	.....	...	295	.17	583	.33	1,489	217	.14	490	.33
Walnut.....	2,188	.....	...	c 276	.17	c 528	.33	1,972	279	.14	896	.20
Bourbon, corp.....	.....	.....	...	a 191	...	a 417	...	874	124	.14	352	.40
Bremen, corp.....	.....	.....	...	b 127	...	b 286	...	.....	.....	...	.....	.....
Argos, corp.....	.....	.....	...	c 114	...	c 220	...	.....	.....	...	.....	.....
Plymouth, city.....	2,571	.....	...	434	.17	1,042	.40	2,482	870	.15	681	.28
Total.....	23,416	5,307	.22	3,718	.15	8,245	.35	20,211	3,051	.15	7,181	.35

Martin County.

Center.....	1,332	.....	...	212	.15	409	.30	1,170	182	.11	412	.35
Brown.....	1,234	.....	...	172	.13	484	.38	1,048	135	.12	490	.46
Columbia.....	1,032	.....	...	153	.14	343	.33	831	122	.14	339	.40
Halbert.....	1,912	.....	...	a 182	.15	a 388	.35	1,336	112	.14	500	.38
Perry.....	1,867	.....	...	b 141	.14	b 348	.39	1,760	135	.08	135	.08
Rutherford	1,315	.....	...	199	.15	467	.35	1,030	125	.12	376	.36
Baker.....	1,092	.....	...	181	.16	369	.33	1,018	153	.13	409	.40
Mitcheltree.....	1,159	.....	...	183	.15	403	.34	1,026	158	.15	395	.38
McCameron.....	1,208	.....	...	183	.14	487	.40	985	143	.14	405	.41
Lost River.....	1,323	.....	...	184	.13	491	.37	899	145	.15	293	.32
Loogootee, corp.....	.....	.....	...	b 119	...	b 392	...	748	99	.13	284	.38
Shoals, corp.....	.....	.....	...	a 119	...	a 296	...	518	97	.12	.....	.....
Totals.....	13,474	2,916	.21	2,028	.14	4,377	.35	11,103	1,556	.14	4,038	.36

Miami County.

Jefferson.....	1,616	.....	...	281	.17	595	.36	1,870	217	.16	520	.38
Richland	1,672	.....	...	311	.18	488	.29	1,600	277	.17	616	.38
Perry.....	1,547	.....	...	270	.17	581	.36	1,667	260	.15	591	.35
Deer Creek.....	1,222	.....	...	191	.15	437	.35	1,773	186	.16	437	.37
Harrison.....	1,249	.....	...	178	.14	483	.38	1,202	209	.17	489	.40
Pipe Creek.....	1,619	.....	...	268	.16	479	.29	1,227	201	.16	441	.35
Clay.....	1,098	.....	...	161	.14	387	.35	972	156	.16	397	.40
Peru.....	940	.....	...	136	.14	237	.25	1,115	143	.13	324	.29
Allen.....	1,223	.....	...	199	.15	478	.39	1,042	164	.15	360	.34
Erie.....	724	.....	...	115	.15	238	.32	599	90	.15	219	.36
Jackson	1,864	.....	...	a 205	.18	a 351	.34	1,645	a 186	.15	a 451	.39
Washington	1,455	.....	...	203	.13	339	.23	1,306	191	.14	364	.27
Union.....	1,152	.....	...	179	.15	330	.30	982	154	.15	297	.30
Butler.....	1,420	.....	...	235	.16	475	.33	1,769	215	.12	615	.32
Xenia, corp.....	.....	.....	...	a 135	...	a 291	...	.....	a 70	...	a 194	.....
Peru, city.....	5,280	.....	...	901	.17	1,716	.32	3,617	559	.15	1,276	.35
Total.....	24,281	6,135	.25	3,968	.16	7,926	.32	21,052	3,278	.15	7,588	.35

TABLE No. XXXV.—Continued.

Monroe County.

Townships, Cities and Towns.	Ratios to Population in 1880.						Ratios to Population, 1870.					
	Population, 1880.	Voters, 1880.	Per cent. of Population	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Bloomington	994	.....	...	486	.13	293	.29	2,860	383	.13	369	? 20
Perry.....	1,220	.....	...	263	? .21	388	.31	1,513	242	.16	438	? .28
Clear Creek.....	1,434	.....	...	235	.16	533	.37	1,325	208	.15	541	.40
Richland	1,610	.....	...	268	.16	a 373	.36	1,486	212	.14	676	? .45
Washington	1,081	.....	...	180	.16	400	.37	990	149	.15	381	.38
Polk.....	1,043	.....	...	135	.12	437	.39	843	93	? .11	364	? .43
Salt Creek.....	1,783	.....	...	120	.15	307	.37	636	83	.13	246	.38
Benton.....	925	.....	...	146	.15	360	.33	867	123	.14	311	.35
Indian Creek.....	1,131	.....	...	162	.14	426	.38	988	152	.15	370	.37
Marion.....	493	.....	...	90	.18	229	? .46	372	62	.16	156	? .41
Van Buren.....	1,087	.....	...	174	.16	400	.37	972	140	.14	437	? .45
Beanblossom.....	1,317	.....	...	227	.17	487	.37	1,522	165	? .10	464	.30
Elliottsville, corp.....	.....	.....	...	.....	.....	a 213	.....	.....	.....	.....	.....	.....
Bloomington, city.....	2,756	.....	...	.....	.....	814	.29	2,102	.....	.....	716	? .69
Total.....	15,874	3,582	23	2,486	.15	5,660	.35	14,168	2,012	.13	5,469	.38

Montgomery County.

Coal Creek.....	1,836	.....	...	327	.17	716	.39	1,773	290	.16	631	.35
Wayne	1,709	.....	...	a 227	.19	a 391	.32	1,418	270	.18	450	.31
Ripley.....	1,349	.....	...	240	.17	460	.34	1,433	237	.19	481	.33
Brown.....	2,337	.....	...	b 201	.12	b 515	.34	2,126	336	.16	745	.35
Scott	1,289	.....	...	178	.13	384	.29	1,111	119	? .11	336	.30
Clark.....	2,401	.....	...	c 376	? .23	c 429	.31	2,175	338	.16	441	.34
Walnut.....	1,910	.....	...	d 295	.18	d 619	.32	1,449	250	.17	485	.33
Franklin.....	1,920	.....	...	393	.20	719	.37	1,683	260	.16	654	.39
Sugar Creek	1,254	.....	...	191	.15	604	? .48	1,176	161	.13	510	? .43
Madison.....	1,142	.....	...	126	? .11	503	? .44	974	161	.16	361	.37
Union	4,917	.....	...	888	.18	1,904	.38	4,876	678	.14	1,660	.34
Ladoga, corp.....	.....	.....	...	c 165	...	c 325	...	a 878	.....	...	307	.35
Waveland, corp.....	.....	.....	...	b 101	...	b 293	...	.....	.....	...	.....	.....
New Ross, corp.....	.....	.....	...	d 58	...	.....	...	.....	.....	...	.....	.....
Waynetown, corp.....	.....	.....	...	a 112	...	a 169	...	.....	.....	...	.....	.....
Crawfordsville, city.....	5,250	.....	...	680	.12	1,808	.34	3,701	523	.15	955	? .25
Total.....	27,314	7,198	.26	4,558	.16	9,839	.36	23,765	3,613	.16	8,016	.32

Morgan County.

Washington	2,053	.....	...	286	.13	623	.30	3,151	250	.16	729	.36
Jackson	1,853	.....	...	246	.13	688	.37	1,725	264	.14	553	.32
Greene.....	1,234	.....	...	212	.17	389	.31	1,345	193	.14	457	.34
Harrison	445	.....	...	74	.13	113	? .26	378	57	.15	159	? .42
Madison	865	.....	...	150	.17	230	? .25	1,042	152	.14	341	.32
Clay	1,363	.....	...	214	.15	456	.33	1,234	167	.13	474	.38
Brown.....	1,650	.....	...	a 114	.15	a 271	.33	a 444	115	? .07	289	? .68
Monroe.....	1,538	.....	...	269	.17	486	.31	1,815	197	.18	360	.82
Adams.....	1,252	.....	...	217	.17	478	.80	1,207	219	.17	474	.39
Gregg.....	1,181	.....	...	180	.15	411	.35	1,041	146	.14	380	.36
Jefferson.....	1,026	.....	...	186	.18	337	.32	1,081	173	.16	373	.34
Ray	969	.....	...	156	.16	348	.36	761	139	.18	283	.30
Baker	456	.....	...	80	.17	150	.32	456	55	.12	150	.33

TABLE No. XXXV.—Continued.

Morgan County.—Continued.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Ashland	1,071	.....	...	178	.16	406	.36	969	163	.17	382	.29
Martinsville, corp.....	1,943	.....	...	345	.17	788	.40	1,131	191	.16	421	.37
Mooreville, corp.....	.....	.....	...	a 139	...	a 327	...	a 1,229	.....	...	319	?.25
Monrovia, corp.....	.....	.....	...	.....	...	.....	...	.....	.....	...	129	.....
Total	18,899	4,627	.24	3,046	.16	6,501	.34	17,528	2,616	.15	6,223	.35

Newton County.

Iroquois.....	818	.....	...	158	.19	295	.36	619	93	.15	254	?.41
Jackson.....	795	.....	...	142	.17	291	.35	766	116	.15	278	.36
Lake	593	.....	...	103	.17	199	.33	378	33	?.09	143	.37
Beaver.....	898	.....	...	153	.17	285	.31	687	117	.18	233	.36
Washington	1,105	.....	...	180	.16	356	.32	983	146	.14	377	.38
Jefferson.....	1,964	.....	...	a 151	.16	a 313	.34	1,606	113	.14	252	.31
McClellan	155	.....	...	24	.15	54	.34	141	121	?.85	42	.29
Grant.....	1,508	.....	...	b 93	?.11	b 190	.32	699	26	?.03	184	?.26
Colfax.....	? 150	.....	...	13	?.08	26	?.17	.....	.....	...	.....	.....
Lincoln.....	181	.....	...	32	.17	72	.39	.....	.....	...	.....	.....
Kentland, corp.....	.....	.....	...	a 179	...	a 356	...	802	148	.18	287	.34
Goodland, corp.....	.....	.....	...	b 87	...	b 306	...	.....	.....	...	.....	.....
Total.....	8,167	1,962	.22	1,315	.16	2,743	.33	5,829	933	.16	2,050	.35

Noble County.

Washington	773	.....	...	127	.16	306	.39	766	108	.14	252	.32
Sparta.....	1,631	.....	...	266	.16	593	.36	1,381	218	.15	597	?.43
Perry.....	1,507	.....	...	183	.12	500	.33	3,135	247	.15	557	.34
Elkhart	1,658	.....	...	295	.18	510	.30	1,793	259	.14	558	.31
York	1,205	.....	...	182	.15	427	.34	1,041	174	.17	377	.36
Noble.....	1,315	.....	...	236	.17	437	.33	1,013	181	.17	362	.35
Greene.....	1,444	.....	...	237	.16	487	.34	1,106	193	.17	483	.39
Jefferson	1,227	.....	...	205	.16	413	.32	1,293	202	.15	476	?.27
Orange	2,037	.....	...	373	.18	539	?.26	2,744	340	.12	642	?.23
Wayne	1,239	.....	...	202	.16	424	.34	1,236	196	.15	500	.40
Allen.....	1,950	.....	...	a 236	.15	a 489	.30	a 1,896	222	.13	695	.39
Swan.....	1,630	.....	...	259	.15	525	.32	1,295	198	.16	417	.32
Albion.....	a 82	.....	...	11	...	.....	...	b 122	.....	...	.....	.....
Ligonier, corp.....	2,010	.....	...	354	.17	632	.31	1,514	274	.18	213	?.14
Albion, corp.....	a 926	.....	...	168	.18	343	.37	b 476	112	?.23	476	?.100
Avilla, corp.....	.....	.....	...	a 73	...	a 112	...	a 137	.....	...	.....	.....
Kendallville, city.....	2,373	.....	...	288	.12	927	.39	2,164	394	.18	690	.31
Total	22,804	5,778	.25	3,695	.16	7,664	.33	20,389	3,318	.16	7,235	.36

TABLE No. XXXV.—Continued.

Ohio County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Pike.....	852	.....	...	120	.14	334	.39	921	94	.10	291	.31
Cass.....	775	.....	...	122	.15	285	.37	772	117	.15	313	.40
Union.....	559	.....	...	101	.18	183	.32	669	95	.14	224	.33
Randolph.....	1,571	.....	...	204	.13	474	.30	3,475	198	.12	481	.28
Rising Sun, city.....	1,806	.....	...	220	.12	675	.37	1,760	210	.11	629	.35
Total.....	5,563	1,357	.24	767	.13	1,971	.35	5,837	714	.19	1,938	.33

Orange County.

Paoli.....	2,510	.....	...	a 311	.16	a 644	.35	1,722	268	.15	638	.37
North East.....	997	.....	...	138	.14	339	.34	930	141	.15	340	.36
Orleans.....	1,830	.....	...	b 166	.16	b 272	.31	a 960	288	.15	661	.35
Orangeville.....	815	.....	...	139	.17	301	.37	904	132	.14	315	.34
North West.....	1,076	.....	...	150	.13	395	.36	879	121	.13	298	.33
French Lick.....	1,701	.....	...	274	.16	674	.36	1,599	219	.13	576	.36
Jackson.....	1,351	.....	...	196	.14	478	.35	1,238	159	.12	458	.36
Greenfield.....	1,518	.....	...	223	.14	525	.35	1,436	193	.13	535	.37
South East.....	1,644	.....	...	266	.15	583	.35	1,556	243	.15	623	.40
Stamper's Creek.....	921	.....	...	156	.15	293	.31	827	125	.15	314	.37
Paoli, corp.....	.....	.....	...	a 108	...	a 237	...	628	86	.13	242	.38
Orleans, corp.....	.....	.....	...	b 133	...	b 307	...	a 906	.....	...	.....	.....
Total.....	14,863	3,078	.21	2,260	.15	5,048	.35	13,497	1,970	.15	5,000	.37

Owen County.

Wayne.....	1,288	.....	...	a 88	.15	a 229	.37	a 362	253	.11	206	.257
Montgomery.....	668	.....	...	103	.16	233	.35	808	101	.12	260	.32
Washington.....	1,488	.....	...	253	.17	436	.29	b 1,687	374	.14	525	.33
Morgan.....	918	.....	...	122	.13	339	.36	1,031	154	.14	377	.36
Jackson.....	728	.....	...	108	.14	243	.33	757	109	.14	269	.35
Harrison.....	529	.....	...	78	.14	202	.38	451	64	.14	180	.39
Olay.....	1,219	.....	...	198	.16	427	.35	1,284	187	.14	482	.37
Franklin.....	1,407	.....	...	212	.15	547	.38	1,512	232	.15	570	.37
Jefferson.....	1,909	.....	...	286	.15	680	.35	2,018	300	.14	747	.36
Marion.....	1,658	.....	...	252	.15	618	.37	1,767	265	.14	700	.39
Lafayette.....	955	.....	...	132	.13	435	.45	1,071	156	.14	339	.36
Jennings.....	684	.....	...	96	.14	292	.42	801	117	.14	304	.37
Taylor.....	807	.....	...	121	.15	297	.38	557	121	.21	281	.250
Spencer, corp.....	1,655	.....	...	315	.17	591	.35	a 971	.....	...	a 326	.38
Gosport, corp.....	.....	.....	...	a 111	...	a 255	...	b 860	.....	...	b 263	.31
Total.....	15,901	3,593	.22	2,475	.15	5,824	.36	16,137	2,293	.14	5,879	.36

TABLE No. XXXV.—Continued.

Parke County.

Townships, Cities and Towns.	Ratios to Population in 1880.						Ratios to Population, 1870.					
	Population, 1880.	Voters, 1880.	Per cent. of Population	Taxable Polls, 1880.	Per cent. of Population	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Adams	3,673	946	.26	a 301	.17	616	.34	2,099	837	.16	708	.33
Washington	1,504	376	.25	271	.18	430	.28	1,213	175	.13	330	.25
Howard.....	554	130	.23	110	.19	182	.32	554	83	.15	207	.37
Sugar Creek.....	908	219	.24	174	.19	343	.37	878	144	.16	330	.37
Liberty.....	1,772	419	.24	312	.18	649	.36	1,540	243	.15	550	.34
Penn	1,552	369	.24	282	.17	528	.34	1,614	190	.18	524	.32
Greene.....	1,119	272	.24	202	.18	367	.32	1,122	190	.16	422	.37
Union	1,401	321	.23	262	.18	482	.34	1,256	193	.15	436	.34
Reserve.....	1,550	386	.25	c 144	.19	266	.32	763	135	.18	315	.41
Wabash.....	753	186	.25	370	.49	255	.33	781	150	.19	280	.35
Florida.....	1,944	485	.25	b 146	.09	653	.33	2,110	820	.15	800	.37
Raccoon.....	1,294	332	.26	240	.19	384	.29	1,327	225	.16	464	.34
Jackson	1,474	341	.23	247	.17	511	.34	1,877	205	.14	525	.38
Rockville, corp.....	.....	.....	.....	a 343	.....	680	.....	1,187	193	.16	892	.33
Rosedale, corp.....	.....	.....	.....	b 26	.....	.....	.....	.....	.....	.....	.....	.....
Montezuma, corp.....	.....	.....	.....	c 153	.....	238	.....	624	111	.17	209	.38
Total.....	19,460	4,781	.24	3,563	.18	6,532	.33	18,166	2,804	.16	6,492	.36

Perry County.

Anderson.....	1,948	.....	...	277	.13	649	.32	1,136	210	.18	679	.59
Clark	2,096	.....	...	316	.15	773	.36	1,567	232	.15	546	.34
Leopold	890	.....	...	118	.13	341	.38	862	109	.11	388	.45
Oil	1,806	.....	...	240	.13	736	.40	1,440	169	.10	548	.38
Troy	2,549	.....	...	a 231	.12	a 612	.32	a 1,465	937	.16	617	.39
Tobin	2,244	.....	...	382	.17	843	.37	2,345	320	.14	962	.40
Union	1,498	.....	...	238	.15	565	.37	1,365	197	.15	541	.39
Cannelton, corp	1,834	.....	...	219	.11	881	.48	a 2,481	.....	.....	880	.35
Tell City, corp.....	2,112	.....	...	217	.10	947	.44	a 1,660	.....	.....	828	.49
Troy, corp.....	.....	.....	...	a 73	.....	a 223	.....	a 480	.....	.....	227	.47
Total.....	16,997	3,547	.20	2,311	.18	6,570	.38	14,801	2,174	.14	6,216	.42

Pike County.

Jefferson.....	2,505	.....	...	422	.16	869	.34	2,188	382	.17	941	.43
Washington	1,778	.....	...	313	.17	600	.33	1,440	235	.16	594	.41
Madison.....	746	.....	...	137	.18	294	.39	723	108	.14	297	.42
Clay.....	946	.....	...	191	.20	324	.34	747	118	.15	287	.30
Logan.....	1,097	.....	...	189	.17	387	.35	921	146	.15	398	.43
Patoka	2,039	.....	...	305	.15	640	.31	1,760	270	.15	593	.33
Marion	1,505	.....	...	219	.14	629	.41	1,428	222	.15	572	.40
Lockhart.....	2,460	.....	...	380	.17	883	.34	1,829	239	.12	524	.28
Monroe.....	2,115	.....	...	354	.17	785	.37	1,820	213	.11	608	.33
Petersburg, corp.....	1,193	.....	...	206	.17	385	.32	923	167	.18	307	.33
Total.....	16,384	3,557	.21	2,716	.16	5,746	.35	13,779	2,100	.16	5,061	.37

TABLE No. XXXV.—Continued.

Porter County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Center.....	1,510	.....	...	166	? .11	354	? .23	1,394	207	.15	400	.30
Union.....	1,054	.....	...	144	.13	388	.36	1,057	172	.16	446	? .42
Washington.....	756	.....	...	115	.15	192	? .25	647	110	.17	209	.30
Jackson.....	1,029	.....	...	143	.13	289	? .28	1,072	197	.18	350	.32
Liberty.....	902	.....	...	145	.16	317	.35	798	156	.19	299	.37
Porter.....	980	.....	...	169	.17	271	? .27	1,006	140	.13	298	.29
Westchester.....	b 1,884	.....	...	208	? .11	599	.31	1,364	a 148	.16	a 361	.35
Pleasant.....	892	.....	...	136	.15	276	.80	615	134	? .21	227	.36
Portage.....	809	.....	...	124	.15	237	.29	728	120	.16	271	.37
Boone.....	1,480	.....	...	223	.15	446	.30	1,215	219	.17	411	.33
Morgan.....	a 580	.....	...	128	.14	205	.35	579	100	.17	206	.35
Essex.....	a 295	.....	...	.....	....	115	.39	228	34	.16	94	? .41
Pine.....	597	.....	...	98	.15	189	.31	474	73	.15	174	.36
Chesterton, <i>corp</i>	b.....	.....	...	.....	....	.....	....	a 73	.....	....	a 130	....
Valparaiso, <i>city</i>	? 4,461	.....	...	463	? .10	1,248	? .25	2,765	468	.17	897	.32
Total.....	17,429	4,008	.23	2,253	.13	5,126	.29	13,942	2,344	.17	4,763	.34

Posey County.

Black.....	3,298	.....	...	475	.14	1,678	? .50	3,411	481	.14	1,209	.35
Lynn.....	1,826	.....	...	288	.15	638	.34	1,666	266	.16	528	.31
Point.....	1,161	.....	...	212	.19	843	.29	980	159	.16	371	.37
Harmony.....	2,598	.....	...	a 199	.17	873	.32	1,395	174	.13	477	.34
Robb.....	1,778	.....	...	239	.13	527	.29	2,129	269	.12	604	? .28
Marrs.....	2,050	.....	...	329	.16	978	? .47	2,029	291	.14	792	.39
Robinson.....	1,783	.....	...	269	.14	735	? .42	1,688	257	.15	672	.39
Smith.....	1,105	.....	...	178	.16	387	.85	988	147	.15	369	.37
Bethel.....	572	.....	...	123	? .21	196	.34	581	92	.15	238	.40
Center.....	1,006	.....	...	183	.18	893	.39	955	147	.15	395	? .41
New Harmony, <i>corp</i>.....	.....	.....	...	a 238	....	.....	....	836	146	.17	411	? .49
Mt. Vernon, <i>corp</i>	3,730	.....	...	451	.12	1,300	.34	2,880	335	? .11	950	.33
Total.....	20,857	4,648	.22	3,184	.15	8,048	.38	19,185	2,764	.14	7,016	.36

Pulaski County.

Salem.....	936	.....	...	147	.15	284	.30	848	36	? .04	289	.34
Tippecanoe.....	800	.....	...	150	.18	328	? .41	1,023	53	? .05	336	.32
Franklin.....	468	.....	...	49	? .10	125	? .28	226	17	? .07	85	.33
Rich Grove.....	.....	.....	...	a 67	...	a 195	...	315	26	? .08	109	.34
Cass.....	1,087	.....	...	a 79	.14	a 255	? .41	460	35	? .08	117	? .25
White Post.....	622	.....	...	121	.19	337	? .54	978	50	? .05	275	? .28
Jefferson.....	? 604	.....	...	42	? .07	147	? .24	171	15	? .08	68	.39
Monroe.....	1,774	.....	...	b 121	.13	a 304	.37	1,418	52	? .10	375	? .26
Harrison.....	819	.....	...	135	.15	325	.39	753	64	? .08	812	? .41
Van Buren.....	1,133	.....	...	.....	...	388	.35	1,175	60	? .03	410	.34
Indian Creek.....	948	.....	...	164	.17	309	.32	935	56	? .06	300	.32
Beaver.....	660	.....	...	80	.12	281	? .42	489	39	? .06	180	.36
Winamac, <i>corp</i>.....	.....	.....	...	b 119	...	b 358	...	906	75	? .06	289	.31
Total.....	9,851	2,221	.22	1,276	.13	3,636	.37	7,801	578	? .08	2,913	.33

TABLE No. XXXV.—Continued.

Putnam County.

Townships, Cities and Towns.	Ratios to Population in 1880.						Ratios to Population, 1870.					
	Population, 1880.	Voters, 1880	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Jackson	1,487	.....	...	a 235	.17	a 409	.27	1,431	194	.13	a 428	.29
Franklin	1,458	.....	...	b 208	.16	b 412	.34	1,266	a 172	.14	a 403	.39
Russell	1,294	.....	...	247	.19	462	.36	1,246	195	.15	461	.32
Clinton	1,016	.....	...	183	.18	315	.31	1,036	162	.15	344	.33
Monroe	1,477	.....	...	c 177	.17	c 283	.23	1,608	b 151	.13	b 301	.32
Floyd	1,152	.....	...	140	.12	360	.31	1,403	194	.13	420	.29
Marion	1,430	.....	...	230	.16	521	.37	1,453	171	.11	361	.25
Greencastle	1,881	.....	...	240	.12	539	.28	1,716	232	.13	529	.31
Madison	1,090	.....	...	183	.16	318	.29	1,043	159	.15	339	.32
Washington	1,835	.....	...	300	.16	809	.44	1,843	231	.12	889	.48
Warren	1,075	.....	...	d 160	.18	d 282	.38	a 1,087	146	.15	332	.27
Jefferson	1,108	.....	...	177	.15	409	.36	1,080	150	.13	344	.32
Gloverdale	1,736	.....	...	282	.16	527	.30	1,740	204	.14	545	.38
Mill Creek	511	.....	...	82	.15	200	.39	b 492	78	.16	180	.27
Newcastle, corp .....	.....	.....	...	.....	...	a 65	...	.....	.....	...	.....	.....
Carpentersville, corp .....	.....	.....	...	b 35	...	b 92	...	.....	a 20	...	a 88	.....
Bainbridge, corp .....	.....	.....	...	c 77	...	c 156	...	.....	b 72	...	b 217	.....
New Maysville, corp .....	.....	.....	...	a 21	...	.....	...	109	20	.19	68	.62
Putnamville, corp .....	.....	.....	...	d 40	...	d 132	...	a 219	82	.15	.....	.....
Fillmore, corp .....	.....	.....	...	.....	...	.....	...	b 217	28	.13	.....	.....
Cloverdale, corp	308	.....	...	75	.27	180	.38	317	49	.13	157	.49
Greencastle, city	3,644	.....	...	516	.14	1,507	.41	3,227	523	.16	1,098	.33
Total	22,502	5,511	.24	3,608	.16	7,978	.35	21,514	3,288	.14	7,499	.35

Randolph County.

White River	3,279	.....	...	522	.16	1,014	.31	a 4,069	404	.15	1,419	.35
Washington	2,389	.....	...	415	.18	831	.30	2,051	331	.16	781	.38
Green's Fork	2,126	.....	...	371	.17	738	.35	2,235	274	.12	590	.26
Stony Creek	1,337	.....	...	231	.17	496	.34	1,212	162	.13	395	.32
Nettle Creek	1,468	.....	...	259	.17	581	.31	1,457	193	.13	466	.31
West River	1,651	.....	...	a 263	.17	a 471	.39	b 1,612	245	.16	539	.36
Green	1,140	.....	...	193	.17	401	.32	1,243	156	.12	384	.29
Ward	1,863	.....	...	307	.16	687	.35	1,859	239	.12	625	.34
Jackson	1,380	.....	...	220	.16	511	.37	1,349	176	.13	542	.39
Wayne	1,892	.....	...	334	.17	632	.33	e 3,220	304	.17	729	.23
Monroe	1,877	.....	...	b 248	.16	b 438	.36	1,919	272	.19	566	.28
Franklin	1,649	.....	...	c 143	.18	c 323	.33	d 1,537	247	.19	533	.34
Winchester, corp	1,958	.....	...	357	.17	674	.34	a 1,456	230	.15	.....	.....
Ridgeville, corp .....	.....	.....	...	c 146	...	c 247	...	c 716	.....	...	.....	.....
Farmland, corp .....	.....	.....	...	b 56	...	b 236	...	d 532	.....	...	.....	.....
Huntsville, corp .....	.....	.....	...	a 31	...	a 73	...	b 130	.....	...	.....	.....
Union City, city	2,478	.....	...	465	.19	820	.33	1,439	215	.14	341	.24
Total	26,437	6,303	.24	4,661	.18	9,103	.34	22,862	3,248	.14	8,116	.35

Ripley County.

Center	1,940	.....	...	a 175	.17	361	.33	1,581	208	.13	583	.3
Washington	1,112	.....	...	159	.14	422	.37	1,206	168	.13	479	.36
Adams	2,608	.....	...	327	.12	974	.37	2,703	835	.12	955	.39
Otter Creek	1,696	.....	...	243	.14	530	.31	1,687	220	.13	618	.35

TABLE No. XXXV.—Continued.

Steuben County.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Mill Grove	1,021	.....	...	196	.19	301	.29	975	160	.16	294	.30
Jamestown	715	.....	...	118	.16	253	.35	779	126	.17	a 283	.36
Fremont.....	626	.....	...	131	.20	215	.36	a 570	174	.13	183	.32
Clear Lake	519	.....	...	57	? .11	148	? .28	455	70	.15	127	? .25
York	1,099	.....	...	155	.14	316	? .28	857	141	.16	374	? .45
Scott.....	1,154	.....	...	206	.18	304	? .26	1,024	167	.15	299	.29
Pleasant.....	1,203	.....	...	365	? .30	408	.33	b 999	269	? .27	684	.33
Jackson	1,167	.....	...	178	.15	432	.37	1,122	180	.16	394	.35
Salem	1,560	.....	...	271	.17	488	.31	1,385	220	.16	506	.37
Steuben	1,657	.....	...	266	.16	575	.34	1,253	197	.15	426	.33
Otsego.....	1,347	.....	...	208	.14	497	.36	1,318	187	.13	541	? .41
Richland	661	.....	...	110	.16	259	.39	658	97	.14	213	.32
Angola, corp	1,280	.....	...	196	.15	470	.36	b1,072	.....	...	.....	....
Fremont, corp	632	.....	...	129	.20	213	.32	a 392	.....	...	a 163	? .41
Total.....	14,644	3,742	.25	2,586	.18	4,879	.83	12,854	1,988	.16	4,485	.36

St. Joseph County.

Olive.....	1,900	.....	...	a 218	.16	a 430	.33	1,560	a202	.17	a 350	.34
Warren	771	.....	...	142	.18	238	.30	760	140	.18	281	.37
German	578	.....	...	128	? .22	155	? .27	551	86	.15	168	.30
Clay.....	1,460	.....	...	136	? .09	295	? .20	?1,442	124	? .08	253	? .17
Harris.....	450	.....	...	84	.18	154	.34	408	57	.13	140	.34
Penn	2,318	.....	...	364	.16	676	.29	4,982	370	.16	720	.30
Portage.....	770	.....	...	105	.13	338	? .43	777	126	.16	346	? .45
Center.....	768	.....	...	138	.18	250	.32	717	139	.19	251	.35
Greene	991	.....	...	150	.15	342	.34	964	151	.15	347	.36
Union	2,051	.....	...	294	.14	808	.37	1,801	307	? .23	704	.39
Liberty.....	1,939	.....	...	379	.19	766	.39	1,617	272	.16	596	.36
Madison.....	1,907	.....	...	297	.15	749	.39	1,697	264	.15	662	.39
Lincoln.....	1,890	.....	...	b 117	.18	b 206	.32	1,063	157	.14	399	? .28
Mishawaka, corp.....	2,640	.....	...	387	.14	868	.32	2,617	570	? .21	835	.31
New Carlisle, corp.....	.....	.....	...	a 105	....	a 196	....	.....	a 72	....	a 182	....
Walkerton, corp.....	.....	.....	...	b 131	....	b 249	....	.....	.....	....	.....	....
South Bend, city.....	13,279	.....	...	1,944	.14	4,267	.32	7,206	1,277	.17	2,804	.31
Total.....	33,176	8,223	.24	5,119	.15	10,987	.33	25,322	4,814	.17	8,538	.34

Sullivan County.

Jackson	1,984	467	.24	317	.16	734	.37	1,732	237	.13	637	.32
Curry	2,270	507	.22	a 265	.15	a 498	.36	2,171	344	.13	912	? .42
Fairbanks.....	1,331	331	.25	219	.16	428	.32	1,234	211	.15	449	.36
Turman	2,045	458	.22	367	.18	662	.34	1,933	320	.16	771	.39
Hamilton.....	a 2,324	1,032	.23	352	.15	842	.36	2,363	351	.15	987	? .42
Cass	1,499	329	.22	231	.15	613	.40	1,488	210	.14	547	.36
Jefferson.....	1,797	406	.22	294	.16	685	.38	1,251	246	.19	691	? .55
Haddon	2,725	730	.27	b 421	.18	b 932	? .41	2,750	336	.12	796	? .28
Gill.....	2,200	508	.23	c 287	.14	c 554	.33	a1,709	306	.14	588	.34

TABLE No. XXXV.—Continued.

Sullivan County.—Continued.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Sullivan, <i>corp.</i>	a 2,158	.....	....	671	.31	700	.32	1,896	252	.18	543	.38
Carlisle, <i>corp.</i>.....	.....	.....	....	b 76	....	b 209	....	499	108	? 21	222	? 44
Merom, <i>corp.</i>.....	.....	.....	....	c 40	....	c 173	....	a 426	.....	....	172	.35
Farmersburg, <i>corp.</i>.....	.....	.....	....	a 24	....	a 147	....	.....	.....	....	.....	....
Shelburn, <i>corp.</i>.....	.....	.....	....	a 61	....	a 172	....	.....	.....	....	.....	....
Total	19,633	4,768	.24	3,625	.18	7,349	.37	18,453	2,921	.16	7,315	.39

Switzerland County.

Jefferson.....	8,935	.....	...	a 358	.16	a 745	.36	3,268	a.....	.15	a 608	.39
York.....	1,683	.....	...	231	.13	513	.30	995	243	? 21	585	? 59
Posey.....	2,105	.....	...	b 260	.15	b 677	.38	2,183	b.....	.16	b 543	.35
Cotton.....	1,609	.....	...	235	.14	551	.34	1,700	263	.15	598	.35
Pleasant.....	2,024	.....	...	283	.14	727	.31	2,145	285	.13	756	.35
Craig.....	1,980	.....	...	314	.16	677	.34	1,843	264	.19	751	.40
Patriot, <i>corp.</i>.....	.....	.....	...	b 55	....	b 234	....	.....	b 341	....	b 220	....
Vevay, <i>city.</i>.....	.....	.....	...	a 290	....	a 672	....	.....	a 498	....	a 688	....
Total.....	18,336	3,199	.24	2,026	.16	4,696	.85	12,134	1,895	.15	4,750	.87

Tippecanoe County.

Lauremie	2,381	595	.25	348	.14	842	.35	3,237	324	.19	811	? 25
Randolph	841	225	.27	191	? 22	281	.33	1,052	127	.12	332	.32
Jackson	1,133	268	.24	205	.18	419	.37	1,061	167	.15	444	? 41
Wayne	1,823	348	.26	170	.12	419	.31	2,134	282	.13	591	? 27
Shelby.....	1,487	364	.24	262	.18	466	.32	1,395	229	.16	532	.38
Wabash.....	2,632	649	.25	317	? 11	614	? 24	2,129	a 297	.17	a 528	.34
Tippecanoe.....	2,182	573	.26	a 287	.16	a 602	.36	2,274	b 285	.15	b 553	.33
Washington.....	1,526	341	.22	241	.15	521	.34	1,784	265	.15	538	.30
Perry.....	1,631	388	.24	241	.14	595	.36	1,481	254	.17	567	.38
Sheffield	1,644	445	.27	286	.17	625	.38	1,984	236	? 11	544	? 28
Wea.....	1,119	299	.27	166	.14	394	.35	1,251	188	.15	466	.87
Union	754	197	.26	142	.18	354	? 47	548	245	? 44	560	? 102
Fairfield.....	a 1,585	4,391	.25	b 176	.19	b 710	? 66	2,280	c 89	? 04	c 651	.38
Linnwood	a 869	.....	...	123	.14	376	.40	.....	c 89	...	c 223	....
Battle Ground, <i>corp.</i>.....	.....	.....	...	a 64	...	a 198	...	.....	b 55	...	b 221	....
Chauncey, <i>corp.</i>.....	.....	.....	...	b 96	...	b 310	...	.....	a 64	...	a 198	....
Lafayette, <i>city.</i>	a 14,860	.....	...	2,183	.14	6,392	? 43	13,506	2,161	.16	5,131	.38
Total.....	35,966	9,081	.25	5,498	.15	14,178	.89	33,515	5,268	.16	12,330	.37

TABLE No. XXXV.—Continued.

Tipton County.

Townships, Cities and Towns.	Ratios to Population in 1880.						Ratios to Population, 1870.					
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Jefferson.....	2,238	.....	...	276	.12	886	.35	1,738	247	.14	625	.36
Cicero.....	4,080	.....	...	a 264	.11	a 1,093	.38	a 2,754	410	.15	1,802	.36
Madison.....	2,074	.....	...	359	.17	734	.30	1,729	266	.15	670	.38
Wildcat.....	1,972	.....	...	b 209	.16	b 466	.35	1,547	243	.15	545	.35
Liberty.....	2,115	.....	...	c 257	.13	c 670	.38	1,746	260	.15	596	.34
Prairie.....	1,923	.....	...	288	.15	636	.33	1,547	230	.15	545	.35
Tipton, <i>corp.</i>.....	.....	.....	...	a 222	...	a 467	...	a 892	157	.18	.....	.....
Windfall, <i>corp.</i>.....	.....	.....	...	b 105	...	b 230	...	.....	.....	...	.....	.....
Sharpville, <i>corp.</i>.....	.....	.....	...	c 47	...	c 154	...	.....	.....	...	.....	.....
Total.....	14,402	3,439	.23	2,227	.15	5,336	.37	11,953	1,813	.15	4,283	.36

Union County.

Harrison.....	816	.....	...	172	.21	222	.27	759	127	.17	286	.37
Brownsville.....	1,197	.....	...	a 164	.17	a 377	.45	580	148	.25	346	.59
Liberty.....	939	.....	...	167	.18	287	.30	763	153	.20	306	.40
Center.....	1,422	.....	...	191	.13	450	.30	1,196	191	.16	433	.37
Union.....	1,454	.....	...	222	.16	460	.31	1,289	231	.18	338	.26
Harmony.....	749	.....	...	126	.17	216	.28	734	115	.16	234	.32
Liberty, <i>corp.</i>	1,096	.....	...	170	.15	385	.35	700	123	.17	264	.38
Brownsville, <i>corp.</i>.....	.....	.....	...	a 48	...	a 166	...	320	57	.18	135	.42
Total.....	7,673	1,948	.22	1,260	.16	2,563	.33	6,341	1,145	.18	2,342	.37

Vanderburgh County.

Armstrong.....	1,364	318	.23	191	.14	560	.40	1,290	185	.14	473	.37
German.....	1,541	338	.22	169	.10	747	.48	1,683	208	.12	649	.38
Center.....	1,927	420	.22	267	.13	659	.34	1,689	205	.12	544	.32
Scott.....	1,675	397	.24	255	.15	608	.36	1,677	230	.13	682	.40
Perry.....	2,034	451	.22	286	.14	707	.34	1,718	197	.11	532	.30
Knight.....	1,902	416	.22	260	.13	613	.32	a 1,342	173	.18	322	.24
Union.....	1,195	257	.22	122	.10	364	.30	1,040	202	.19	247	.23
Pigeon.....	a 1,274	6,799	.22	65	.05	128	.10	a 875	.....	....	198	.22
Evansville, <i>city</i>	a 29,280	.....	....	4,128	.10	13,124	.44	21,830	2,853	.13	9,180	.44
Total.....	42,192	9,395	.22	5,742	.13	17,510	.41	33,145	4,253	.12	12,827	.38

Vermillion County.

Highland.....	2,483	576	.23	363	.14	870	.36	2,984	357	.15	770	.34
Eugene.....	1,341	362	.27	260	.19	500	.37	1,747	196	.14	475	.34
Vermillion.....	2,205	563	.25	a 319	.19	a 492	.31	1,735	218	.13	540	.31
Helt.....	3,027	728	.24	524	.17	1,070	.35	2,794	849	.12	974	.35
Clinton.....	3,009	719	.24	b 318	.15	b 795	.34	1,659	224	.13	570	.34
Newport, <i>corp.</i>.....	.....	.....	....	a 118	....	a 214	....	398	70	.17	100	.25
Clinton, <i>corp.</i>.....	.....	.....	....	b 160	....	b 252	....	561	64	.11	187	.33
Total.....	12,025	2,948	.24	2,067	.17	4,193	.34	10,840	1,478	.14	3,616	.36

TABLE No. XXXV.—Continued.

Vigo County.

Townships, Cities and Towns.	Ratios to Population in 1880.						Ratios to Population, 1870.					
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Nevins	1,579	355	.22	266	.17	670	.42	1,299	201	.15	450	.34
Otter Creek.....	1,337	320	.24	243	.17	440	.32	1,269	146	.11	621	.48
Fayette	1,935	472	.24	346	.18	661	.34	1,912	274	.14	670	.35
Sugar Creek.....	2,218	494	.22	365	.16	692	.31	2,054	298	.14	687	.33
Harrison	1,868	438	.23	255	.13	584	.31	1,870	326	.17	956	.109
Lost Creek	1,835	412	.22	255	.13	797	.43	1,914	253	.13	674	.29
Riley.....	1,632	429	.26	282	.17	732	.44	1,492	255	.17	584	.39
Honey Creek	1,455	367	.25	283	.19	458	.31	1,519	190	.12	509	.33
Prairieton	1,020	232	.23	200	.19	345	.33	955	149	.15	362	.33
Prairie Creek.....	1,382	331	.24	270	.19	470	.34	1,236	213	.17	570	.46
Linton	1,648	380	.23	280	.17	563	.34	1,437	219	.14	618	.43
Pierson.....	1,707	399	.23	299	.17	556	.32	1,489	221	.15	613	.41
Terre Haute, city.....	26,040	6,737	.22	3,186	.12	8,096	.31	16,103	2,255	.14	5,182	.32
Total.....	45,656	10,366	.23	6,530	.14	15,064	.33	33,549	5,000	.14	12,396	.37

Wabash County.

Chester.....	2,865	.....	...	511	.17	1,014	.35	3,143	509	.16	1,194	.38
Noble.....	3,837	.....	...	602	.15	1,475	.38	4,485	690	.15	1,825	.40
Liberty.....	2,013	.....	...	a 377	.23	a 824	.53	1,816	268	.14	675	.37
LaGro.....	4,247	.....	...	620	.14	1,260	.29	3,547	564	.16	1,238	.40
Paw Paw.....	2,147	.....	...	386	.17	696	.32	.....	.....	.....	.....	.....
Pleasant.....	2,184	.....	...	353	.16	557	.25	2,553	365	.14	943	.37
Waltz	2,547	.....	...	385	.15	872	.34	2,732	341	.14	837	.36
North Manchester, corp..	1,598	.....	...	293	.12	433	.27	.....	.....	.....	.....	.....
LaGro, corp.....	.....	.....	...	a 110	....	a 243	....	519	89	.17	230	.46
Wabash, city.....	3,800	.....	...	730	.19	1,261	.33	2,881	537	.18	964	.33
Total.....	25,268	6,080	.24	4,367	.17	8,835	.35	21,305	3,363	.16	7,915	.37

Warren County.

Washington	? 1,308	.....	...	a 80	.24	a 122	.50	? 1,251	76	.06	229	.18
Pine.....	972	.....	...	163	.17	398	.40	1,032	144	.14	418	.40
Mound	484	.....	...	82	.17	107	.22	394	69	.17	229	.56
Steuben	1,315	.....	...	208	.15	458	.34	1,068	173	.16	419	.39
Pike.....	1,100	.....	...	c 81	.09	c 166	.22	941	a 83	.15	a 187	.37
Medina.....	699	.....	...	87	.12	163	.23	609	107	.17	204	.33
Warren.....	1,273	.....	...	256	.20	367	.29	1,391	174	.14	435	.36
Liberty.....	1,330	.....	...	240	.18	439	.33	1,176	195	.16	406	.34
Adams.....	690	.....	...	140	.20	185	.36	809	134	.16	267	.33
Jordan	610	.....	...	117	.18	220	.36	448	92	.20	194	.43
Prairie	988	.....	...	201	.20	350	.36	667	132	.19	226	.33
Kent	728	.....	...	b 62	.13	b 134	.33	601	112	.18	267	.44
Williamsport, corp.....	.....	.....	...	a 143	....	a 358	....	988	138	.14	297	.30
West Lebanon, corp.....	.....	.....	...	a 100	....	a 185	....	.....	a 61	....	a 170	....
State Line City, corp.....	.....	.....	...	b 83	....	b 109	....	.....	.....	....	.....	....
Green Hill, corp.....	.....	.....	...	c 24	....	c 85	....	.....	.....	....	.....	....
Total.....	11,497	2,858	.24	2,017	.21	3,910	.34	10,204	1,690	.16	3,848	.37

TABLE No. XXXV.—Continued.

Warrick County.

Townships, Cities and Towns.	Ratios to Population in 1880.						Ratios to Population, 1870.					
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Anderson.....	912	.....	...	166	.18	296	.32	842	128	.15	260	.30
Boone	3,486	.....	...	667	.19	1,279	.38	a3,003	590	.19	1,052	.35
Campbell	1,536	.....	...	246	.16	618	.40	1,437	221	.15	557	.37
Greer.....	1,214	.....	...	188	.15	453	.37	864	172	.17	376	?.43
Hart.....	2,168	.....	...	322	.15	798	.37	1,892	233	.12	610	.32
Lane	1,165	.....	...	195	.17	429	.37	870	127	.14	321	.36
Ohio.....	2,131	.....	...	332	.15	753	.35	b1,826	439	.14	565	.31
Owen.....	1,517	.....	...	240	.15	537	.35	1,440	204	.14	540	.37
Pigeon.....	1,927	.....	...	267	.13	859	?.44	1,646	244	.14	669	.40
Skelton.....	1,644	.....	...	273	.17	690	?.42	1,330	212	.16	516	.38
Boonville, corp	1,182	.....	...	216	.18	669	?.56	a1,039	.....	....	403	.38
Newburgh, corp.....	1,282	.....	...	217	.18	700	?.54	b1,464	.....	....	660	?.45
Total.....	20,162	4,426	.21	3,329	.16	8,073	.40	17,653	2,370	.14	6,509	.37

Washington County.

Gibson.....	1,680	.....	...	228	.16	596	.35	1,525	203	.13	590	.38
Jefferson.....	1,555	.....	...	237	.15	489	.31	1,532	220	.14	515	.33
Monroe.....	1,075	.....	...	161	.15	355	.33	1,058	155	.14	340	.32
Brown.....	1,463	.....	...	a 176	.16	a 442	.40	1,521	197	.12	568	.37
Vernon.....	1,014	.....	...	143	.14	382	.37	1,101	135	.12	399	.36
Washington.....	2,634	.....	...	389	.14	891	.34	4,172	393	.14	953	.33
Franklin	1,372	.....	...	226	.16	437	.32	1,366	214	.16	513	.37
Polk.....	1,057	.....	...	160	.18	437	?.41	920	127	.13	406	?.44
Pierce	1,098	.....	...	146	.13	423	.38	1,179	191	.16	495	?.42
Howard	1,250	.....	...	191	.15	433	.34	1,158	169	.14	424	.36
Madison.....	902	.....	...	b 95	.16	b 232	.35	835	a 83	.14	a 210	.40
Posey.....	1,411	.....	...	c 184	.14	c 429	.34	1,509	150	.15	523	.39
Jackson	828	.....	...	124	.14	283	.34	902	118	.15	339	.38
Salem, corp	1,610	.....	...	244	.15	554	.34	1,294	178	.14	416	.32
Campbellsburg, corp.....	.....	.....	...	a 58	...	a 141	...	.....	.....	...	.....	.....
Livonia, corp.....	.....	.....	...	b 33	...	b 93	...	.....	a 37	...	a 126	.....
Hardinsburg, corp.....	.....	.....	...	c 20	...	c 63	...	199	15	?.08	111	?.55
Total.....	18,949	4,110	.21	2,815	.15	6,683	.35	18,495	2,585	.14	6,870	.38

Wayne County.

Abington.....	837	232	.28	160	.19	256	.30	994	137	.16	341	.34
Boston.....	936	238	.25	a 142	.19	a 315	.37	894	a 162	.17	a 321	?.41
Center	2,307	597	.26	b 228	.16	b 551	.29	2,855	272	.15	574	.32
Clay.....	1,063	270	.25	c 141	.20	c 220	.36	1,094	107	.18	270	.38
Dalton.....	748	185	.26	124	.17	250	.33	839	109	.16	277	.40
Franklin.....	1,428	377	.24	216	.15	448	.31	1,697	215	.16	441	.40
Greene.....	1,189	290	.27	195	.16	395	.33	1,541	190	.15	437	.40
Harrison.....	588	157	.27	105	.18	186	.31	580	98	.17	181	.31
Jackson	a 2,924	1,445	.26	d 214	.15	d 358	.31	1,175	257	?.22	315	.30
Jefferson.....	2,007	536	.26	e 169	.16	e 377	.38	955	178	.19	338	.35

TABLE No. XXXV.—Continued.

Wayne County.—Continued.

Townships, Cities and Towns.	Ratios to Population in 1880.						Ratios to Population, 1870.					
	Population, 1880.	Voters, 1880.	Per cent of Population.	Taxable Polls, 1880.	Per cent of Population.	Enumerated School Chil- dren, 1880.	Per cent of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent of Population.	Enumerated School Chil- dren, 1870.	Per cent of Population.
New Garden	1,443	359	.25	124	.09	324	.22	1,176	122	.11	446	.39
Perry	890	212	.24	154	.17	294	.33	1,105	127	.19	297	.27
Washington	2,015	540	.26	f 213	...	f 893	.63	a 1,217	164	.13	675	.55
Wayne	b 4,371	4,180	.24	569	...	1,214	.27	3,734	477	.13	1,439	.38
Webster	755	179	.24	115	...	269	.35	.....	.....	.....	.....	.....
Boston, corp .....	.....	.....	...	a 33	...	a 37	...	.....	a .....	...	a 49	.....
Cambridge City, corp	a 2,370	.....	...	857	.15	768	.32	2,162	247	.11	806	.37
Centerville, corp .....	.....	.....	...	b 130	...	b 296	...	1,077	133	.12	378	.35
Dublin, corp .....	.....	.....	...	d 148	...	d 377	...	1,076	141	.13	452	.42
East Germantown, corp ..	.....	.....	...	d 68	...	d 175	...	536	70	.13	205	.38
Newport, corp .....	.....	.....	...	.....	...	.....	...	343	38	.11	134	.39
Fountain City, corp .....	.....	.....	...	a 64	...	a 140	...	.....	.....	...	.....	.....
Hagerstown, corp .....	.....	.....	...	e 145	...	e 389	...	830	127	.15	274	.33
Milton, corp .....	.....	.....	...	c 143	...	c 267	...	a 823	137	.16	.....	.....
Mt. Auburn .....	.....	.....	...	27	...	.....	...	.....	.....	...	.....	.....
Washington, corp .....	.....	.....	...	c 55	...	c 160	...	379	53	.14	132	.35
Whitewater .....	.....	.....	...	32	...	.....	...	.....	.....	...	.....	.....
Linden Hill, corp .....	.....	.....	...	f 22	...	f 8	...	.....	.....	...	.....	.....
Richmond, city	b 12,743	.....	...	1,622	...	4,845	.38	9,445	1,026	.10	3,515	.37
Total	38,614	9,797	.25	.....	...	13,312	.46	34,048	4,587	.13	12,297	.36

Wells County.

Jackson	1,496	.....	...	265	.18	501	.33	1,140	161	.14	414	.36
Chester	1,668	.....	...	270	.16	546	.32	1,212	169	.13	449	.37
Liberty	1,752	.....	...	317	.18	640	.36	1,097	165	.15	377	.34
Rock Creek	1,412	.....	...	263	.18	507	.35	1,326	201	.15	514	.38
Union	1,600	.....	...	270	.19	577	.35	1,263	193	.15	493	.39
Nottingham	2,057	.....	...	321	.15	716	.34	1,432	202	.14	561	.38
Harrison	2,035	.....	...	a 304	.16	a 605	.35	1,850	266	.14	829	.44
Lancaster	1,806	.....	...	316	.18	616	.39	1,381	194	.14	569	.40
Jefferson	1,675	.....	...	368	.21	772	.46	1,773	279	.15	688	.38
Bluffton, corp	2,354	.....	...	483	.20	700	.27	1,131	191	.16	428	.37
Vera Cruz, corp .....	.....	.....	...	a 38	...	a 123	...	.....	.....	...	.....	.....
Total	18,442	4,401	.23	3,215	.17	6,299	.34	13,585	2,021	.15	5,322	.39

White County.

Prairie	2,139	.....	...	a 283	.17	a 501	.32	1,592	246	.15	593	.37
Round Grove	804	.....	...	163	.20	201	.24	401	52	.13	159	.39
West Point	836	.....	...	170	.20	260	.30	611	89	.14	238	.36
Princeton	1,395	.....	...	240	.17	447	.32	960	134	.18	306	.32
Big Creek	787	.....	...	161	.20	186	.23	584	96	.17	182	.31
Union	2,220	.....	...	b 196	.18	b 350	.32	945	165	.17	853	.37
Jackson	1,724	.....	...	c 226	.16	c 428	.36	b 1,088	215	.16	491	.36
Liberty	1,149	.....	...	167	.14	423	.37	888	129	.15	351	.39
Cass	624	.....	...	91	.13	208	.33	451	61	.13	205	.45
Monon	1,215	.....	...	d 152	.16	d 240	.32	1,165	157	.14	361	.31

TABLE No. XXXV.—Continued.

White County.—Continued.

Townships, Cities and Towns.	Ratios to Population in 1880.							Ratios to Population, 1870.				
	Population, 1880.	Voters, 1880.	Per cent. of Population.	Taxable Polls, 1880.	Per cent. of Population.	Enumerated School Chil- dren, 1880.	Per cent. of Population.	Population, 1870.	Taxable Polls, 1870.	Per cent. of Population.	Enumerated School Chil- dren, 1870.	Per cent. of Population.
Honey Creek.....	904	.....	...	a 77	.14	a 202	.39	a 805	81	.14	207	.34
Monticello, <i>corp</i>.....	.....	.....	...	b 221	...	b 362	...	887	121	.14	328	.37
Brookston, <i>corp</i>.....	.....	.....	...	a 82	...	a 205	...	408	72	.18	204	.50
Burnettsville, <i>corp</i>.....	.....	.....	...	c 58	...	c 197	...	b 270	.....	...	.....	...
Reynolds, <i>corp</i>.....	.....	.....	...	e 54	...	e 153	...	a 306	.....	...	.....	...
Monon, <i>corp</i>.....	.....	.....	...	d 53	...	d 151	...	.....	.....	...	.....	...
Total.....	13,798	3,375	.24	2,394	.17	4,514	.32	10,554	1,621	.15	3,978	.38

Whitley County.

Cleveland.....	2,295	.....	...	387	.17	792	.30	2,041	350	.17	792	.38
Richland	1,917	.....	...	320	.16	581	.30	1,723	265	.15	519	.30
Troy.....	924	.....	...	161	.17	262	.28	894	128	.14	330	.37
Etna.....	577	.....	...	87	.15	229	.39	429	68	.16	177	.41
Washington	1,479	.....	...	233	.15	493	.33	1,246	184	.15	473	.37
Columbia.....	1,339	.....	...	192	.14	675	.50	1,271	161	.12	500	.39
Thorn Creek.....	1,488	.....	...	191	.12	488	.32	1,343	201	.15	529	.39
Jefferson.....	1,523	.....	...	242	.15	555	.30	1,263	188	.15	507	.40
Union	1,263	.....	...	225	.17	400	.31	1,486	195	.13	501	.33
Smith	1,892	.....	...	310	.16	674	.35	1,232	194	.16	418	.34
Columbia City <i>corp</i>	2,244	.....	...	385	.17	713	.31	1,663	277	.17	586	.35
Total.....	16,941	4,203	.25	2,736	.16	5,872	.34	14,399	2,211	.15	5,332	.36

The sums designated by the same letter in each column are included in one when taking the per cent. of population. The query (?) indicates that there is an improbable ratio between population, voters, polls or children, and that some of the original figures are suspected of being wrong.

NOTE.—This table is believed by the Bureau to possess considerable immediate practical value. There is a proper and natural ratio existing between population, voters, taxable polls and enumerated school children, subject to some local causes, which here and there disturb this ratio to some extent. Generally, however, the number of legal voters will be 21 to 25 per cent., the taxable polls 13 to 17 per cent., and the enumerated school children 33 to 36 per cent. of the population. For the State at large the voters are 23.8 per cent., the taxable polls 16.22 per cent., and the enumerated school children 35.65 per cent. of the population. Any township, city or town showing a ratio materially differing from the above may fairly be suspected of being wrongly counted in population, or voters, polls or children. (See note on same table by counties.)

In taking the census of 1880, the population of many towns are included in that of the township in which such town is situated, which was not so often the case in 1870, which in such cases prevents a comparison for the two decades.

Where the population of any town has been included in the township, the taxable polls and school children have also been included in calculating the per cent. The polls and children have, however, been shown for each town for information. Take Henry county for example, where there

are ten incorporated towns, and only one of these (New Castle) has its population of 1880 shown separate from the township. In Wayne township the taxable polls number 210, and Knightstown 285, making a total in the township of 525, which is a fraction over 16 per cent. of the population. The school children of Wayne township are 467, and of Knightstown 552; total in the township 1,022, which is a fraction over 31 per cent. of the population of Wayne township, including that of Knightstown. The same rule applies to the showing for 1870, with the addition that, where the population of towns are included in their townships in the census of 1880, the same is done with the census of 1870, so as to make possible the comparison of the ratios of the two periods. The population of such towns in 1870 is also shown separately at the conclusion of each county.

This has been a very tedious and complex table to make, and there may be, and doubtless are, some errors in it. Two different clerks worked on it; one, making about the first half, generally made the township figures include the population of incorporated towns, while the latter portion shows the population of townships and towns separately. The latter half of the table will, therefore, be an exception to the above plan.

TABLE No. XXXVI.—A.

Classification of County Expenditures, showing Increase or Decrease from Last Year. (Increase is shown by i, and Decrease by d.)

Counties.	County Officers.		Grand, Petit Jurors and Bailiffs.		Coroner's Inquests.		Enumerating, Assessing and Appraising.		Road Viewing, Surveying, etc.		County Superintendents and Institutes.	
	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.
Adams	\$3,654	d \$306	\$1,571	i \$474	\$37	d \$30	\$1,323	i \$78	\$117	d \$44	\$570	i \$69
Allen	19,878	d 4,839	18,805	i 9,751	460	d 283	4,458	i 40	9,316	i 7,399	1,729	d 44
Bartholomew	7,826	d 1,214	4,114	d 2,466	144	i 66	2,800	d 223	387	i 45	1,108	i 210
Benton	4,661	d 788	2,464	i 177	43	i 8	1,239	i 190	124	d 117	819	a
Blackford	3,472	d 340	838	i 145	32	d 85	565	Same.	141	d 162	570	i 98
Boone	5,118	d 719	4,002	d 10	36	d 58	1,630	i 53	208	i 167	854	i 74
Brown	3,446	d 447	1,145	d 773	39	d 45	1,169	i 662	69	i 59	646	i 59
Carroll	4,266	d 120	8,471	d 3,376	174	d 21	1,151	i 33	162	i 75	1,198	i 204
Cass	11,227	d 3,803	10,114	d 268	375	i 245	2,385	i 355	2,010	i 2,010	1,215	d 219
Clark	4,224	d 4,445	5,804	d 74	269	d 244	1,744	d 61	378	d 2	1,226	d 9
Clay	5,563	i 1,353	2,926	d 574	73	d 2	428	d 1,222	126	i 126	1850	Same.
Clinton	5,694	d 1,677	2,787	d 2,490	256	d 30	1,730	d 11	102	d 170	842	.....
Crawford	3,031	d 944	1,152	d 368	79	i 8	603	i 8	59	d 28	677	i 57
Davies	8,554	d 341	2,884	d 1,060	257	i 47	1,717	i 354	220	d 92	923	i 312
Dearborn	6,023	d 162	6,815	d 2,699	346	d 91	1,789	i 91	892	i 468	1,221	i 242
Decatur	4,909	d 1,272	3,453	i 189	175	d 365	1,307	i 78	14	d 40	1,101	.....
DeKalb	2,910	d 1,793	3,679	d 470	77	d 32	1,316	d 43	4,110	d 3,293	1,081	.....
Delaware	c 4,554	d 2,703	2,607	d 1,744	89	i 39	1,406	.....	37	d 55	1,100	.....
Dubois	3,855	d 809	1,042	d 24	41	d 40	1,253	d 39	286	i 208	1,061	.....
Elkhart	7,409	d 2,578	2,815	i 1,543	47	.....	1,762	.....	413	d 143	1,850	.....
Fayette	8,259	d 79	1,101	d 1,541	11	d 68	919	d 18	96	i 7	563	d 164
Floyd	5,537	d 856	8,687	i 431	272	i 28	2,447	i 691	48	d 61	1,734	.....
Fountain	4,987	d 1,726	1,889	d 98	37	d 808	1,712	d 180	48	d 63	1,652	.....
Franklin	4,781	d 1,479	3,853	d 917	20	d 2	1,502	i 88	679	i 611	816	.....
Fulton	8,923	d 1,139	1,876	d 268	2	d 49	1,769	i 24	103	d 60	.....	d 16
Gibson	3,804	d 110	3,146	i 380	223	i 113	1,488	i 23	2,770	i 2,445	.....	.....

Grant.....	8,090	d 1,641	2,550	d 2,008	25	325	1,877	i 206	269	d 502	+ 901	.....
Greene.....	8,882	i 106	2,558	d 884	55	56	1,455	i 80	210	d 50	+ 960	i 164
Hamilton.....	6,705	d 685	3,511	d 1,839	263	114	1,649	d 231	107	d 42	1,175	d 103
Hancock.....	5,072	i 400	2,060	d 200	306	80	1,355	d 133	52	d 26	1,910	i 34
Harrison.....	4,398	d 772	3,042	d 969	126	87	1,478	i 224	175	i 103	1,134	i 66
Hendricks.....	6,197	i 1,788	3,795	d 1,831	68	21	1,457	d 10	101	i 15	1,036	i 80
Henry.....	5,361	d 2,159	2,599	d 1,291	32	14	1,907	i 75	50	d 5	11,250	.....
Howard.....	4,826	d 2,656	7,055	i 2,578	38	189	1,280	i 10	52	d 126	1,033	.....
Huntington.....	4,574	d 2,637	2,713	d 2,037	21	119	1,699	i 62	1,856	i 1,790	d 291	d 72
Jackson.....	2,967	d 759	1,871	d 2,328	806	112	1,729	i 89	551	i 353	d 387	d 9
Jasper.....	3,125	d 704	2,488	i 812	1	19	731	d 62	409	d 2,109	d 387	d 96
Jay.....	4,140	d 128	3,244	i 276	.....	47	1,302	i 100	1,805	i 1,389	d 96	d 224
Jefferson.....	5,422	d 1,213	2,475	d 2,917	257	156	2,219	i 132	49	d 171	1,106	d 224
Jennings.....	5,474	i 973	2,831	i 162	30	28	1,135	i 58	164	i 54	684	i 5
Johnson.....	5,186	i 674	2,871	d 28	194	177	1,437	i 1,424	156	i 92	328	d 7
Knox.....	7,431	i 600	4,171	d 731	482	322	1,865	i 361	147	d 48	1,099	d 68
Kosciusko.....	3,732	d 1,501	4,192	d 1,888	181	87	1,309	i 50	193	i 40	1,099	d 68
Lagrange.....	3,391	d 30	1,853	d 353	50	50	835	i 5	240	d 83	+ 1,099	.....
Lake.....	4,185	d 1,464	.....	.....	264	171	912	i 15	1,709	i 709	+ 744	.....
Laporte.....	6,955	i 103	4,684	i 349	89	165	1,572	d 369	1,969	d 2,423	1,216	i 176
Lawrence.....	3,454	d 420	510	d 2,790	86	41	877	i 27	184	i 111	773	d 31
Madison.....	7,731	d 425	6,784	d 1,118	125	5	1,950	d 66	28	d 165	1,450	.....
Marion.....	14,934	d 11,822	21,333	i 1,698	2,125	193	10,238	i 1,049	1,193	i 792	1,424	i 93
Marshall.....	4,368	d 1,397	4,193	d 1,521	184	78	2,262	i 1,770	198	d 198	1,056	i 35
Martin.....	5,108	i 642	1,543	d 522	23	105	892	i 20	187	d 10	.....	.....
Miami.....	6,296	d 1,825	3,650	d 3,004	50	50	1,679	d 329	779	i 604	+ 869	.....
Monroe.....	5,396	i 240	4,730	i 2,019	30	131	1,262	i 172	55	d 8	+ 886	.....
Montgomery.....	6,972	i 157	5,526	i 426	229	116	1,486	d 351	441	d 124	+ 1,240	.....
Morgan.....	5,961	i 834	4,706	i 608	80	154	1,372	i 45	72	d 967	1,135	i 223
Newton.....	3,774	d 972	1,935	d 345	22	7	747	d 50	82	i 42	531	d 18
Noble.....	5,185	d 1,497	2,338	d 481	5	280	1,738	i 97	191	i 26	+ 829	.....
Ohio.....	3,004	d 363	1,374	d 415	49	26	247	i 6	53	d 225	336	i 27
Orange.....	4,160	d 129	497	d 1,588	10	10	1,365	i 431	181	d 1,890	650	i 600
Owen.....	4,446	i 366	3,754	d 163	63	42	1,176	i 1,041	30	i 4	910	i 180
Parke.....	5,197	d 412	1,602	d 1,160	138	83	1,602	d 238	55	d 63	942	i 219
Perry.....	4,290	i 959	789	d 475	24	1	1,127	d 13	209	d 65	826	d 48
Pike.....	4,169	i 82	2,441	d 46	13	84	1,103	i 68	176	d 9	917	d 94
Porter.....	2,940	d 1,206	3,153	i 415	79	21	929	i 29	1,342	i 54	+ 898	.....
Posey.....	4,993	d 566	1,035	d 1,940	.....	.....	1,512	i 47	6,294	i 1,011	+ 973	.....
Pulaski.....	3,415	d 906	2,046	d 683	96	10	962	i 221	568	i 367	669	i 73
Putnam.....	8,082	i 881	4,850	i 2,580	156	100	1,397	.....	53	i 14	11,265	.....
Randolph.....	3,796	d 1,802	2,219	d 2,803	99	7	1,692	d 788	73	i 19	887	d 41
Ripley.....	5,709	i 1,840	3,430	i 232	151	19	1,687	d 8	54	d 40	1,154	i 398
Rush.....	5,067	d 502	2,595	d 492	130	36	1,492	i 17	57	d 22	874	i 36
Scott.....	2,642	d 985	683	d 183	84	13	667	i 125	119	i 49	561	d 6
Shelby.....	5,802	d 577	4,813	d 482	175	86	1,894	i 247	131	d 19	680	i 34
Spencer.....	4,455	d 344	2,180	d 901	125	52	1,643	i 22	783	d 653	1,066	i 132
Starke.....	3,865	i 355	856	d 199	70	70	494	d 38	350	d 439	239	d 209
St. Joseph.....	5,041	i 168	d 2,584	d 601	167	111	1,787	d 8	e 2,717	i 2,093	1,292	i 57
Steuben.....	2,408	d 468	2,280	d 29	69	51	977	i 19	.....	.....	1,934	i 148

TABLE No. XXXVI.—A.—Continued.

Counties.	County Officers.		Grand, Petit Jurors and Bailiffs.		Coroner's Inquests.		Enumerating, Assess'g and Apprais'g.		Road Viewing, Surveying, etc.		County Superintendents and Institutes.	
	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.
Sullivan	\$4,145	d \$908	\$1,144	d \$813	\$253	i \$179	\$1,510	i \$85	\$284	d \$97	\$876	d \$117
Switzerland	4,189	i 576	3,160	d 334	40	d 198	715	i 51	119	i 100	757	i 169
Tippecanoe	†11,265	d 3,904	8,478	d 2,431	659	i 67	3,094	i 236	452	d 633	+	.....
Tipton	4,428	d 1,249	1,870	d 1,133	93	i 70	825	i 78	43	i 22	608	i 180
Union	3,632	d 1,100	1,615	d 359	7	i 6	484	i 13	24	d 169	1,045	i 895
Vanderburg	11,497	i 665	14,734	i 3,581	1,067	d 503	5,261	i 165	††60,804	d 7,109	† 921	.....
Vermillion	3,311	d 596	612	d 1,324	37	d 93	998	i 208	233	d 858	535	d 21
Vigo	14,550	d 3,038	6,250	d 139	355	d 234	2,575	i 208	9,025	d 2,069	† 925	.....
Wabash	6,155	d 1,087	9,206	i 975	114	i 19	1,686	d 123	74	d 6	† 1,009	.....
Warren	4,464	d 710	2,037	d 68	41	d 31	1,288	i 85	269	i 10	1,137	i 102
Warrick	4,825	i 775	2,628	i 742	147	i 110	1,304	i 148	932	i 655	965	i 15
Washington	3,562	d 825	2,290	d 76	41	i 16	1,555	i 305	136	i 79	694	d 240
Wayne	9,801	d 2,324	3,587	d 4,161	321	d 188	3,873	i 496	147	i 52	1,678	i 287
Wells	4,808	d 1,170	1,031	d 569	49	d 57	990	i 94	63	d 14	† 868	.....
White	3,463	d 1,138	2,197	d 3,483	58	d 49	1,424	i 15	267	i 44	754	i 45
Whitley	3,086	d 1,048	3,839	i 778	90	i 30	990	i 15	97	d 167	989	i 596
Total	\$99,539	.....	\$66,558	.....	\$3,441	.....	\$39,058	.....	\$72,969	.....	\$14,495	.....

* Includes printing and advertising. † Includes \$9,260 paid on account of soldiers' bounties. ** Includes repairs on public buildings. ‡ Includes pay to County Superintendent. †† Includes repairs on old bridges. ‡‡ Includes the construction, grading and graveling of free turnpikes. § Allen County.—The amount paid on books and stationery is included in the amount paid on advertising and printing. † Henry County.—The County Superintendent's salary was included in 1879 with the salaries of county officers; hence we can not give an increase or decrease this year. ‡ Jasper County.—The amount expended on gravel roads was included with the expense of road viewing last year, which accounts for the decrease this year. § Perry County.—The amount expended on new bridges includes the amount expended on repairs. † a Vigo County.—The amount paid on bridges is included in the amount paid for road viewing and surveying. ‡ Delaware County.—No report last year. The amount paid for assessing and County Superintendent included with county officers this year. † Marion County.—Amount paid of all other expenses taken from report of 1879. ‡ St. Joseph County.—Expense of Court included with Jurors, Bailiffs, etc. † Amount paid on bridges included with road viewing.

TABLE No. XXXVI.—B.

Classification of County Expenditures, showing Increase or Decrease from Last Year. (Increase is shown by i, and Decrease by d.)

Counties.	Prisoners and Criminals.		Poor Expenses.		Benevolent and Reformatory Inst's.		Public Buildings.			Interest on County Bonds.		
	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.	New.	Repairs.	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.
Adams.....	d \$182	d \$486	\$2,524	d \$1,151	\$474	i \$328	\$500	\$39		i \$539	\$2,800	Same.
Allen.....	4,057	d 2,490	43,451	i 6,757	2,689	d 42		5,430	5,430	i 4,553		i 2,560
Bartholomew.....	847	d 344	4,927	d 14,703		d 677		7,374	7,374	i 4,283	2,560	Same.
Benton.....	480	d 1,122	4,805	d 570	111	d 598	5,190	843	843	i 4,796	4,000	i 460
Blackford.....	470	i 1,167	2,363	i 801	182	i 118	12,199	260	260	i 12,100	460	i 460
Boone.....	854	i 854	6,449	d 927	287	d 523	2,113			i 708		Same.
Brown.....	102	d 361	948	i 138	57	d 132		79	79	d 367	533	d 5,127
Carroll.....	1,223	d 122	3,481	d 1,866	118	d 304					2,800	Same.
Cass.....	2,286	i 1,382	10,072	d 4,678	1,570	d 369		1,984	1,984	i 1,355	5,751	d 100
Clark.....	4,305	i 574	12,340	d 22	3,275	i 564	12,253			i 7,041	3,200	i 1,153
Clay.....	746	d 754	2,375		147	d 1,508				d 8,000	1,730	d 485
Clinton.....	2,146	d 120	4,125	i 630	912	d 333		1,854	1,854	i 1,676		
Crawford.....	7	i 7	1,384	i 113		d 718		100	100	i 100		
Davies.....	399	i 78	4,868	i 586	201	d 1,064		195	195	d 35,028	867	i 867
Dearborn.....	1,407	d 347	11,070	d 630	612	d 714				i 1,836	646	d 10,367
Decatur.....	712	d 514	5,784	d 120	748	d 193	787		2,184	i 2,198		d 1,128
Dekalb.....	2,051	i 1,365	7,520	i 2,024	158	i 740			1,986	i 847		d 2,898
Delaware.....	805	d 760	5,992	d 2,121	729	i 102			3,251	i 2,667	2,684	d 1,795
Dubois.....	219	d 242	4,588	d 597	955	i 716			355	d 289		
Elkhart.....	1,641	i 636	12,503	i 1,645	1,163	d 1,286	15,687		2,329	i 9,758		
Fayette.....	677	d 396	3,490	d 1,181				2,494	2,494	i 1,898		
Floyd.....	976	i 515	2,976	d 15,627	6,260	i 5,136				d 341	3,162	d 782
Fountain.....	866	d 2,917	4,911	d 928	1,345	i 420			2,033	d 11,075	10,000	Same.
Franklin.....	1,079	i 213	4,994	i 104	855	d 582			251	d 820	1,040	i 240
Fulton.....	102	d 372	3,469	d 1,319	76	d 177			1,089	i 953		
Gibson.....	757	d 973	9,313	i 215	874	d 155			1,752	i 1,167		

TABLE No. XXXVI.—B.—Continued.

Counties.	Prisoners and Criminals.		Poor Expenses.		Benevolent and Reformatory Inst'ns.		Public Buildings.			Interest on County Bonds.			
	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.	For year ending May 31, 1880.		Increase or Decrease from last year.	For year ending May 31, 1880.	Increase or Decrease from last year.		
							New.	Repairs.					
Grant	\$226	d	\$685	d	\$1,836	d	\$3,689	d	\$848	i	\$2,711	i	\$961
Greene	398	d	501	d	19	d	3,510	d	.....	d	1,850	i	1,850
Hamilton	965	d	2,706	d	3,271	d	11,281	d	710	i	7,785	d	700
Hancock	669	d	66	d	1,175	i	11,623	d	695	i	1,500	Same.	.....
Harrison	340	d	363	d	1,003	d	2,003	d	69	d	.....	.....	.....
Hendricks	387	d	625	d	2,747	d	8,882	d	981	i	.....	.....	958
Henry	901	i	828	i	1,734	d	6,500	d	150	d	.....	.....	.....
Howard	1,278	d	377	d	932	d	7,942	d	303	d	.....	.....	.....
Huntington	212	d	525	d	1,068	d	3,396	d	100	d	.....	.....	.....
Jackson	882	d	217	d	158	i	4,783	d	655	i	.....	.....	.....
Jasper	741	i	57	i	2,299	i	2,792	d	186	i	.....	.....	.....
Jay	238	d	377	d	2,401	d	2,091	d	495	d	290	d	110
Jefferson	1,583	d	278	d	1,211	i	11,253	d	938	i	.....	.....	1,628
Jennings	918	d	1,560	d	661	d	3,913	d	1,017	i	6,668	d	2,242
Johnson	890	d	876	d	1,740	d	6,406	d	467	i	.....	.....	.....
Knox	1,572	d	1,080	d	866	i	6,039	i	279	d	.....	.....	.....
Kosciusko	811	i	314	i	878	d	7,754	d	2,083	i	.....	.....	.....
Lagrange	242	d	510	d	1,493	d	3,942	d	105	d	.....	.....	.....
Lake	224	d	19	d	277	d	2,791	d	24,805	d	.....	.....	.....
Laporte	2,656	d	592	d	497	d	12,099	d	50,000	i	.....	.....	.....
Lawrence	76	d	370	d	574	d	4,800	d	1,760	i	.....	.....	.....
Madison	1,145	i	100	i	1,349	d	7,718	d	728	i	1,600	i	200
Marion	14,872	d	25,460	d	25,206	d	19,854	d	.....	d	400	d	556
Marshall	1,476	i	929	i	2,325	d	5,066	d	5,553	i	74,784	d	2,657
Martin	451	i	78	i	114	d	2,619	d	1,119	i	.....	.....	.....
Miami	894	d	386	d	985	i	7,116	d	.....	d	.....	d	200
Monroe	1,339	d	731	d	1,050	i	6,271	d	1,511	d	.....	.....	.....
Montgomery	775	d	737	d	5,864	d	6,426	d	833	i	.....	.....	.....
Morgan	1,137	d	250	d	2,097	i	9,056	d	1,176	i	.....	.....	.....
Newton	1,192	d	413	d	1,888	d	2,091	d	300	i	.....	.....	.....
Noble	1,983	i	1,186	i	2,340	d	3,161	d	889	d	4,875	i	4,875
Ohio	172	i	19	i	247	i	2,617	d	2,647	i	1,600	Same.	.....
Orange	400	i	455	i	283	i	1,600	i	2,647	i	.....	d	53
									150	d	.....	d	582

Owen.....	556	d	458	1,256	d	8,141	21	d	151	3,861	.....	1,039	i	3,180	.....	6,770	.....	.....	i	5,570
Parke.....	741	i	443	8,966	d	60	656	d	204	58,508	.....	.....	i	54,888	.....	.....	.....	.....	d	236
Perry.....	872	d	24	5,711	i	916	1,179	i	246	944	.....	.....	i	715	.....	700	.....	.....	d	.....
Pike.....	828	i	509	4,320	d	627	.....	i	907	.....	.....	.....	d	55	.....	.....	.....	.....	.....	.....
Porter.....	209	d	325	3,857	d	2,445	182	d	807	.....	.....	.....	d	17,490	.....	.....	.....	.....	.....	.....
Posey.....	1,889	i	502	6,456	i	943	.....	d	8,059	1,000	.....	.....	d	82	.....	.....	.....	.....	d	1,600
Pulaski.....	418	i	170	2,852	d	651	598	d	613	.....	.....	.....	d	2,245	.....	.....	.....	.....	.....	.....
Putnam.....	.....	.....	.....	6,682	d	187	521	d	591	15,610	.....	.....	i	2,570	.....	.....	.....	.....	.....	.....
Randolph.....	1,778	d	170	4,950	i	154	234	d	319	565	.....	.....	d	1,729	.....	.....	.....	.....	.....	.....
Ripley.....	268	i	151	4,247	i	69	.....	d	183	.....	.....	.....	d	80	.....	.....	.....	.....	d	.....
Rush.....	1,076	d	515	8,752	i	336	623	d	.....	.....	.....	.....	d	1,729	.....	.....	.....	.....	d	862
Scott.....	340	i	248	1,562	d	172	755	i	519	.....	.....	.....	d	81	.....	862	.....	.....	i	3,040
Shelby.....	987	d	129	7,770	d	1,443	2,869	i	2,368	1,150	.....	.....	d	43,039	.....	3,040	.....	.....	i	.....
Spencer.....	307	d	527	4,488	d	903	272	d	435	.....	.....	.....	d	117	.....	.....	.....	.....	.....	.....
Starke.....	75	i	75	1,295	d	906	15	i	15	.....	.....	.....	d	153	.....	.....	.....	.....	.....	.....
St. Joseph.....	788	d	75	9,041	d	3,506	986	d	447	.....	.....	.....	d	860	.....	240	.....	.....	d	247
Steuben.....	323	i	82	1,403	d	1,803	983	i	498	.....	.....	.....	d	563	.....	1,600	.....	.....	Same.	.....
Sullivan.....	685	d	362	3,654	d	443	497	d	112	.....	.....	.....	i	232	.....	.....	.....	.....	.....	.....
Switzerland.....	368	i	195	5,524	i	932	286	i	108	.....	.....	.....	d	328	.....	.....	.....	.....	.....	.....
Tippecanoe.....	5,376	d	1,401	21,747	d	749	2,817	i	537	.....	.....	.....	i	1,025	.....	2,989	.....	.....	i	2,932
Tipton.....	770	d	890	8,950	i	624	143	i	8	.....	.....	.....	i	1,750	.....	1,750	.....	.....	i	1,750
Union.....	288	i	61	3,126	d	282	297	i	47	.....	.....	.....	d	285	.....	.....	.....	.....	.....	.....
Vanderburg.....	3,463	d	187	16,394	d	2,972	9,836	i	3,249	1,440	.....	.....	i	1,523	.....	4,636	.....	.....	d	404
Vermillion.....	966	i	148	6,684	d	902	622	i	190	.....	.....	.....	i	303	.....	804	.....	.....	d	459
Vigo.....	2,610	d	1,216	17,375	i	914	1,715	d	465	.....	.....	.....	d	1,142	.....	5,400	.....	.....	d	200
Wabash.....	816	i	301	3,034	d	2,757	587	i	20	82,880	.....	.....	d	14,276	.....	3,500	.....	.....	i	3,500
Warren.....	382	d	660	6,928	d	409	.....	d	429	.....	.....	.....	i	172	.....	.....	.....	.....	.....	.....
Warrick.....	748	i	166	8,114	d	377	.....	d	293	.....	.....	.....	d	4,943	.....	3,000	.....	.....	d	624
Washington.....	490	i	296	4,397	i	3	.....	d	1,872	.....	.....	.....	d	1,250	.....	.....	.....	.....	.....	.....
Wayne.....	8,703	i	666	16,409	i	2,987	437	d	1,358	.....	.....	.....	i	736	.....	.....	.....	.....	.....	.....
Well.....	502	i	60	4,467	i	1,652	1,211	d	168	.....	.....	.....	i	5,391	.....	.....	.....	.....	.....	.....
White.....	384	i	66	1,353	d	2,619	.....	d	195	5,334	.....	.....	i	605	.....	1,200	.....	.....	Same.	.....
Whitley.....	591	d	128	1,828	d	2,005	840	i	6	.....	.....	.....	i	781	.....	.....	.....	.....	.....	.....
Total.....	\$22,409	.....	.....	\$130,882	.....	.....	\$20,171	.....	.....	\$39,658	.....	\$16,153	.....	.....	.....	\$24,821	.....	.....	.....	.....

TABLE No. XXXVI.—C.

Classification of County Expenditures, showing Increase or Decrease from Last Year. (Increase shown by i, and Decrease by d.)

Counties.	Interest on Gravel Road Bonds.		Interest paid on County Orders for year ending May 31, 1880.	Books, Stationery, Printing and Advertising.			Bridges.	
	For year ending May 31, 1880.	Increase or Decrease from last year.		Books and Stationery.	Printing and Advertising.	Increase or Decrease from last year.	New.	Repairs.
Adams.....	\$2,060	\$1,668	\$663	.....	\$4,687	\$540
Allen.....	2,730	.....	4,409	d 2,049	46,492	2,850
Bartholomew...	2,186	901	i 50	18,174	1,500
Benton.....	495	1,099	721	i 590	2,414	125
Blackford.....	555	307	i 90	.....	.....
Boone.....	2,527	853	i 2,264	.....	.....
Brown.....	804	738	i 396	550	.....
Carroll.....	1,219	450	i 38	.....	1,472
Cass.....	8	3,622	2,061	i 2,355	1,500	5,109
Clark.....	395	2,396	458	i 807	.....	2,781
Clay.....	*2,763	.....	d 737	4,353	.....
Clinton.....	2,048	635	i 72	652	.....
Crawford.....	216	595	500	i 582	.....	50
Davies.....	1,251	247	i 335	1,563	.....
Dearborn.....	6,269	1,667	716	i 536	7,942	513
Decatur.....	2,027	495	i 593	700	.....
DeKalb.....	1,160	1,728	360	i 1,023	10,178	1,825
Delaware.....	2,216	391	i 617	.....	1,159
Dubois.....	1,255	934	330	d 174	6,150	121
Elkhart.....	3,252	869	i 915	10,556	.....
Fayette.....	1,211	257	i 217	14,000	286
Floyd.....	267	*1,747	.....	i 422	3,242	.....
Fountain.....	167	1,812	921	i 514	.....	.....
Franklin.....	624	259	i 30	13,225	1,742
Fulton.....	2,055	936	348	d 550	5,795	.....
Gibson.....	699	608	d 55	3,735	.....
Grant.....	1,971	1,232	i 28,590	1,053	.....
Greene.....	155	3,986	415	i 2,782	20,755	1,000
Hamilton.....	534	3,984	996	i 1,827	-1,386	616
Hancock.....	2,636	519	i 690	.....	.....
Harrison.....	819	810	800	i 619	1,360	.....
Hendricks.....	87	1,087	446	d 957	144	6
Henry.....	2,293	803	i 311	.....	.....
Howard.....	\$1,120	.....	4,061	1,505	1,109	d 493	1,782	.....
Huntington.....	2,967	.....	.....	3,011	679	i 1,306	.....	7,138
Jackson.....	1,133	400	d 197	1,194	505
Jasper.....	294	.....	1,843	i 1,286	.....	.....
Jay.....	3,500	.....	164	1,793	362	i 368	.....	.....
Jefferson.....	733	259	d 125	.....	60
Jennings.....	1,238	627	i 504	.....	.....
Johnson.....	1,422	451	i 814	.....	298
Knox.....	2	1,181	365	i 276	270	.....
Kosciusko.....	101	1,890	972	d 836	2,729	910
Lagrange.....	1,148	89	i 621	547	640
Lake.....	542	285	d 148	.....	.....
Laporte.....	2,363	1,863	i 560	.....	.....
Lawrence.....	1,130	118	i 186	7,094	.....
Madison.....	-4,894	.....	i 803	6,861	.....
Marion.....	7,740	993	i 3,786	38,198	.....
Marshall.....	1,044	173	i 174	.....	560
Martin.....	1,031	363	d 148	.....	.....

TABLE No. XXXVI.—C.—Continued.

Counties.	Interest on Gravel Road Bonds.		Interest paid on County Orders for year ending May 31, 1890.	Books, Stationery, Printing and Advertising.			Bridges.	
	For year ending May 31, 1890.	Increase or Decrease from last year.		Books and Stationery.	Printing and Advertising.	Increase or Decrease from last year.	New.	Repairs.
Miami.....	\$2,395	\$1,263	i 804	\$36,762	.....
Monroe.....	\$259	1,751	452	i 1,244	5,791	.....
Montgomery.....	\$2,369	.....	.....	2,653	1,153	i 735	5,213	\$554
Morgan.....	850	.....	.....	1,551	817	i 529	2,224	300
Newton.....	942	584	i 299	6,837	253
Noble.....	1,395	531	i 755	3,343	531
Ohio.....	516	185	i 230	.....	.....
Orange.....	1,258	461	i 441	3,300	101
Owen.....	1,357	.....	i 774	4,646	.....
Parke.....	1,996	.....	196	1,080	1,105	i 428	.....	175
Perry.....	2,278	695	618	d 357	††14,653	.....
Pike.....	2,390	603	559	i 731	3,649	.....
Porter.....	560	452	d 247	.....	50
Posey.....	1,479	816	i 1,187	.....	.....
Pulaski.....	812	331	d 22	.....	.....
Putnam.....	1,458	336	i 460	.....	.....
Randolph.....	1,765	.....	d 144	.....	.....
Ripley.....	2,011	445	i 1,631	1,944	.....
Rush.....	2,235	376	i 1,103	5,054	.....
Scott.....	343	*1,452	.....	i 584	.....	.....
Shelby.....	1,871	428	d 523	††1,396	.....
Spencer.....	1,640	1,620	478	i 595	4,784	.....
Starke.....	221	763	697	i 412	400	230
St. Joseph.....	1,261	d 347	.....	.....
Steuben.....	570	697	d 19	††3,037	.....
Sullivan.....	79	735	509	d 55	2,429	.....
Switzerland.....	804	361	d 299	2,103	176
Tippecanoe.....	*3,918	.....	d 1,051	††25,918	.....
Tipton.....	969	2,245	462	i 521	.....	.....
Union.....	488	189	i 366	339	330
Vanderburgh.....	3,225	2,206	1,159	i 1,983	3,771	1,001
Vermillion.....	141	.....	.....	525	344	d 103	8,905	225
Vigo.....	170	2,400	365	d 433	.....	.....
Wabash.....	82	.....	.....	1,637	1,600	i 1,829	.....	1,053
Warren.....	1,242	412	i 902	2,980	.....
Warrick.....	2,089	473	932	d 204	7,500	2,883
Washington.....	1,221	251	i 687	.....	.....
Wayne.....	3,636	1,994	i 615	.....	.....
Wells.....	1,124	475	i 583	2,200	216
White.....	141	1,474	633	i 583	5,304	.....
Whitley.....	64	*1,671	.....	i 385	††4,486	.....
Total.....

TABLE No. XXXVI.—D.

Classification of County Expenditures, showing Increase or Decrease from Last Year. (Increase is shown by i, and Decrease by d.)

Counties.	Redemption of County Bonds.	Redemption of Gravel Road Bonds.	All Other Expenditures.	Total Expenditures.	
				For year ending May 31, 1890.	Increase or Decrease from last year.
Adams.....	.....	.....	\$3,697	\$27,405 77	i 38,034 63
Allen.....	.....	.....	6,231	172,985 17	i 25,429 17
Bartholomew.....	\$872	.....	1,323	40,748 04	d 81,918 66
Benton.....	.....	.....	3,010	32,298 59	i 8,190 11
Blackford.....	.....	.....	15,496	37,934 62	i 27,282 64
Boone.....	.....	.....	5,626	30,556 86	i 2,172 49
Brown.....	3,000	.....	1,300	14,615 81	i 1,946 59
Carroll.....	5,000	.....	8,598	34,803 73	i 8,534 25
Cass.....	13,000	.....	5,187	79,466 20	i 16,079 31
Clark.....	.....	.....	5,588	60,135 78	i 1,663 60
Clay.....	5,600	.....	5,603	33,303 37	i 632 91
Clinton.....	.....	.....	2,937	26,719 81	i 698 06
Crawford.....	.....	.....	1,002	9,656 30	d 1,841 30
Davies.....	5,000	.....	42,051	66,196 92	i 13,383 07
Dearborn.....	10,300	.....	5,186	65,214 30	d 6,432 19
Decatur.....	.....	.....	1,061	25,401 52	d 5,747 84
DeKalb.....	4,000	.....	10,846	57,718 52	i 21,989 52
Delaware.....	10,000	.....	1,044	38,000 00	i 11,453 63
Dubois.....	.....	.....	2,112	23,976 39	i 6,260 15
Elkhart.....	.....	.....	2,186	63,599 89	i 25,519 02
Fayette.....	.....	.....	866	29,520 17	i 12,428 49
Floyd.....	6,000	.....	3,661	46,126 74	i 1,788 56
Fountain.....	.....	.....	3,554	35,020 73	d 18,933 67
Franklin.....	.....	.....	140	35,697 16	i 11,639 26
Fulton.....	.....	.....	4,259	25,619 23	i 5,528 78
Gibson.....	.....	.....	1,089	46,033 40	i 20,948 44
Grant.....	.....	.....	*	*	.....
Greene.....	12,600	.....	3,603	57,463 01	i 38,408 28
Hamilton.....	.....	.....	10,484	85,135 77	i 20,243 19
Hancock.....	.....	.....	1,967	29,508 70	d 29,405 20
Harrison.....	.....	.....	19,343	27,711 42	i 6,789 08
Hendricks.....	.....	.....	11,685	36,940 13	i 3,330 86
Henry.....	.....	.....	2,415	25,040 05	d 7,898 05
Howard.....	.....	.....	11,522	44,866 44	i 6,110 90
Huntington.....	.....	\$6,000	15,694	52,048 36	i 21,302 64
Jackson.....	.....	.....	2,899	21,588 16	i 785 49
Jasper.....	.....	.....	282	13,645 19	d 3,977 40
Jay.....	.....	.....	2,061	22,261 68	i 2,289 04
Jefferson.....	29,400	.....	7,301	69,800 88	i 26,905 05
Jennings.....	334	.....	816	20,315 95	i 366 89
Johnson.....	.....	.....	5,783	64,332 31	i 41,714 56
Knox.....	.....	.....	1,195	48,482 90	d 73,315 48
Kosciusko.....	.....	.....	8,607	38,575 94	d 1,265 40
Lagrange.....	.....	.....	11,578	51,350 07	d 15,362 00
Lake.....	.....	.....	1,841	63,501 39	i 17,916 87
Laporte.....	.....	.....	3,852	40,825 64	d 1,634 86
Lawrence.....	4,000	4,720	.....	30,731 87	i 9,059 56
Madison.....	7,500	.....	2,639	50,694 31	d 877 57
Marion.....	.....	.....	40,507	281,770 50	d 25,058 75
Marshall.....	.....	.....	4,500	45,067 30	i 18,894 64
Martin.....	.....	.....	.....	17,463 47	i 1,903 47
Miami.....	.....	.....	24,798	88,523 59	i 53,603 16

TABLE No. XXXVI.—D.—Continued.

Counties.	Redemption of County Bonds.	Redemption of Gravel Road Bonds.	All Other Expenditures.	Total Expenditures.	
				For year ending May 31, 1880.	Increase or Decrease from last year.
Monroe.....	\$28,767 98	i 9,671 67
Montgomery.....	\$27,532	65,088 17	i 25,564 07
Morgan.....	\$2,000	4,003	40,691 96	i 14,144 16
Newton.....	1,212	21,103 65	i 8,660 95
Noble.....	6,619	31,087 81	i 10,733 24
Ohio.....	\$1,000	.....	876	10,510 00	i 868 82
Orange.....	7,500	.....	4,000	25,908 00	i 8,819 29
Owen.....	22,076 00	d 1,100 78
Parke.....	15,000	1,000	8,833	110,600 06	i 80,868 34
Perry.....	1,690	35,395 43	i 16,814 58
Pike.....	2,000	.....	1,707	25,569 90	i 7,863 96
Porter.....	3,897	18,546 48	d 8,198 94
Posey.....	12,521	38,704 01	d 9,916 19
Pulaski.....	3,025	16,184 62	d 599 84
Putnam.....	40,411 22	i 5,052 27
Randolph.....	21,595	39,644 78	i 12,284 10
Ripley.....	4,031	25,491 02	i 5,821 36
Rush.....	78,655	110,152 18	i 84,603 64
Scott.....	55	10,674 92	i 1,273 02
Shelby.....	12,000	.....	15,507	60,511 45	d 12,805 34
Spencer.....	1,967	26,160 71	i 2,910 58
Starke.....	2,000	11,970 08	i 1,332 13
St. Joseph.....	8,000	.....	5,117	35,271 55	d 2,148 83
Steuben.....	6,998	20,775 61	d 3,682 03
Sullivan.....	1,857	19,495 44	d 1,188 36
Switzerland.....	2,229	20,833 85	i 3,522 22
Tippecanoe.....	350	.....	10,066	99,912 24	i 27,607 96
Tipton.....	2,953	25,610 23	i 1,913 33
Union.....	665	12,580 78	d 203 91
Vanderburgh.....	9,691	156,198 27	i 16,354 12
Vermillion.....	663	25,132 48	i 5,861 39
Vigo.....	6,975	71,590 00	d 3,268 70
Wabash.....	6,755	70,577 59	d 5,531 43
Warren.....	f 4,484	26,212 40	i 5,308 54
Warrick.....	3,000	.....	825	41,293 43	i 12,859 74
Washington.....	2,628	17,953 94	d 998 88
Wayne.....	4,444	51,371 23	d 728 74
Wells.....	3,541	25,963 04	i 8,438 24
White.....	8,995	28,939 11	i 4,902 75
Whitley.....	1,437	20,235 03	i 4,345 65
Total.....	\$734,624 67	.....

ERRATA. The table of county expenditures was made in "piece meal" by three different clerks, and by some mishap some of the partial footings got into print instead of the totals, which were not observed till it was too late to correct them. The footings (totals) are as follows: County officers, \$490,289; grand, petit jurors and bailiffs, \$326,349; coroner's inquests, \$14,889; enumerating, appraising and assessing, \$146,182; road viewing, surveying, etc., \$121,723; county superintendents (of schools) and institutes, \$81,176; prisoners and criminals, \$102,952; poor expenses, \$593,313; State benevolent and reformatory institutions, \$79,226; new public buildings, \$359,963; repairs of public buildings, \$86,138; interest paid on county bonds, \$205,803; interest paid on free gravel road bonds, \$13,025; interest paid on county orders, \$40,069; books and stationery, \$179,161; printing and advertising, \$57,161; building bridges, \$408,349; repairs of bridges, \$39,941; redemption of county bonds, \$180,356; redemption of gravel road bonds, \$13,720; all other expenditures, \$604,023. **Total expenditures, \$4,071,524.70.** This grand total does not include Grant county, in which some of the questions were not answered, hence the grand total will fall short of the sum of the minor totals.

TABLE No.

(Taken from the Report of the

Abstract of the Assessment of Property in Indiana for the Year
and the Changes Ordered by the State Board of
ment of Real Estate in the

Counties.	Acres.	Hundredths.	Value of Lands.	Value of Improvements.	Value of Lands and Improvements.	Average Value of Lands.	Average Value of Lands and Improvements.	Number of City and Town Lots.	Value of Lots.
Adams.....	210,628	14	\$1,815,150	\$396,660	\$2,211,810	\$8 61	\$10 50	1,996	\$128,160
Allen.....	409,403	13	6,424,335	1,347,730	7,772,065	15 69	18 98	12136	4,062,980
Bartholomew.....	251,594	14	5,185,250	675,431	5,860,681	20 61	23 10	.....	673,610
Benton.....	257,540	96	3,310,253	468,797	3,779,050	12 85	14 67	3,242	154,223
Blackford.....	104,204	26	1,000,305	268,358	1,268,663	9 46	.....	1,184	91,497
Boone.....	266,064	53	4,871,835	949,465	5,821,300	18 31	21 88	2,814	321,975
Brown.....	194,210	32	769,850	261,101	1,030,951	8 89	.....	306	9,112
Carroll.....	237,762	...	3,682,944	1,127,579	4,810,523	15 46	22 44	2,783	257,002
Cass.....	256,174	...	3,286,438	968,116	4,254,554	12 82	16 61	.....	1,257,003
Clark.....	236,105	...	3,002,570	439,272	3,441,842	12 70	14 58	.....	1,012,118
Clay.....	227,221	60	2,644,247	576,809	3,221,056	11 63	14 13	5,444	204,407
Clinton.....	258,614	25	3,981,910	824,515	4,806,425	15 39	17 42	4,037	340,760
Crawford.....	197,887	...	559,893	121,177	681,070	2 88	142 82	1,203	33,534
Davies.....	268,507	07	2,663,266	687,414	3,350,680	8 84	520 32	2,579	231,896
Dearborn.....	194,486	70	2,795,925	714,565	3,510,490	14 37	18 05	3,051	582,410
Decatur.....	232,407	61	5,072,106	592,725	5,664,831	21 82	24 37	2,496	333,427
DeKalb.....	227,340	19	3,395,643	474,727	3,870,370	14 93	17 02	4,717	241,279
Delaware.....	247,583	06	4,574,217	839,600	5,413,817	18 47	.....	.....	465,783
Dubois.....	266,132	90	1,417,348	275,366	1,695,714	5 32	6 33	.....	99,357
Elkhart.....	289,184	56	5,830,254	1,022,141	7,036,412	20 18	24 33	.....	450,277
Fayette.....	135,615	52	2,939,912	486,918	4,079,250	27 77	31 00	.....	312,505
Floyd.....	88,454	59	1,120,765	374,155	1,394,920	12 67	15 76	.....	1,968,740
Fountain.....	249,831	77	4,577,750	413,657	4,991,407	18 32	19 98	3,146	204,290
Franklin.....	245,986	78	3,835,870	613,100	4,448,970	15 19	18 08	2,367	178,480
Fulton.....	230,997	71	2,645,550	697,495	3,343,045	11 45	14 47	1,257	219,610
Gibson.....	308,406	34	4,239,192	1,159,950	5,399,142	14 75	17 50	3,131	305,044
Grant.....	259,803	47	3,679,335	1,177,055	4,856,390	14 46	18 65	.....	366,140
Greene.....	340,139	...	2,558,475	731,806	3,290,281	7 25	9 37	2,577	83,696
Hamilton.....	249,857	87	5,722,905	797,825	6,520,730	22 90	26 09	2,155	227,355
Hancock.....	191,733	29	4,410,580	635,310	5,065,890	23 00	26 42	2,697	225,590
Harrison.....	303,876	08	2,019,152	465,736	2,484,888	6 55	.....	.....	58,481
Hendricks.....	254,022	80	6,619,614	609,206	7,228,820	26 05	28 45	2,508	113,770
Henry.....	247,471	...	5,899,891	995,331	6,895,222	24 15	.....	3,506	372,771
Howard.....	185,259	14	2,690,918	820,220	3,511,138	14 52	18 95	2,912	392,297
Huntington.....	233,862	93	3,509,761	1,083,870	4,593,631	15 00	19 64	2,645	403,682
Jackson.....	321,746	89	2,773,385	629,200	3,302,585	8 61	10 26	.....	276,155
Jasper.....	353,158	87	1,312,355	342,716	1,655,071	6 87	4 69	2,096	83,623
Jay.....	242,773	58	2,644,969	1,247,993	3,892,962	10 90	16 03	.....	159,620
Jefferson.....	228,692	56	2,120,621	483,824	2,604,445	9 40	.....	.....	632,469
Jennings.....	232,822	...	1,496,892	324,127	1,821,019	6 31	.....	.....	59,732
Johnson.....	194,949	29	5,619,685	791,835	6,411,520	28 83	32 88	2,119	305,850
Knox.....	320,603	20	3,827,015	840,110	4,667,125	11 92	14 56	.....	1,098,160
Kosciusko.....	338,623	73	5,433,776	618,986	6,052,762	16 04	18 46	3,885	330,989
Lagrange.....	239,293	34	3,523,855	857,645	4,381,500	14 72	18 31	1,993	108,965
Lake.....	304,841	76	2,802,875	585,802	3,388,177	9 22	11 11	.....	156,548
Laporte.....	367,338	42	5,500,160	811,480	6,311,640	15 46	17 18	.....	1,256,080
Lawrence.....	283,319	...	2,781,816	546,735	3,328,551	9 48	11 75	2,452	205,492
Madison.....	283,228	24	5,917,833	601,662	6,519,490	19 17	22 62	.....	659,490
Marion.....	234,366	01	11,054,661	2,025,414	13,080,075	47 16	55 81	.....	24,606,146
Marshall.....	281,158	98	3,742,055	517,533	4,259,588	13 31	15 11	2,921	328,720
Martin.....	210,481	56	783,627	321,410	1,105,037	3 72	5 25	1,548	36,403
Miami.....	238,376	36	3,298,846	803,966	4,102,812	13 70	.....	.....	368,133
Monroe.....	258,796	...	2,410,837	548,148	2,958,985	9 32	11 43	.....	180,936
Montgomery.....	318,516	50	7,412,680	1,011,460	8,424,140	23 08	.....	.....	688,250
Morgan.....	252,962	...	4,004,475	631,490	4,635,965	16 27	18 32	.....	211,730

XXXVII.

Auditor of State for 1880.)

1880, as reported to the State Auditor by the County Auditors, Equalization in its work of Equalizing the Assess- several Counties of the State.

Value of Im- provements.	Value of Lots and Improve- ments.	Average Value of Lots.	Average Value of Lots and Im- provements.	Value of Person- al Property.	Corporation Stock.	Taxable Polls.	Total Value of Taxable Prop- erty.	Changes Ordered by the Board.
\$167,520	\$295,680	\$64 20	\$148 14	\$939,085	.....	.....	\$3,446,025	
3,206,045	7,268,975	334 78	598 96	8,955,455	.....	7,885	18,996,495	
785,787	1,359,897	.....	.....	2,559,544	.....	.....	9,779,622	
207,056	361,279	47 57	111 44	1,100,974	.....	1,948	5,241,303	10 per cent. in- crease on real estate.
139,755	231,252	.....	.....	558,504	.....	1,382	2,058,419	
497,855	819,830	114 41	291 32	2,244,160	.....	4,295	8,885,290	
82,444	81,556	.....	.....	482,274	.....	1,439	1,544,780	
441,174	698,176	92 34	250 87	1,777,649	.....	.....	7,286,848	
1,157,964	2,414,967	.....	.....	2,454,342	.....	4,852	9,123,863	
1,289,203	2,281,321	.....	.....	1,947,508	.....	.....	7,670,671	
405,958	610,365	87 56	112 11	1,273,120	.....	.....	5,104,541	
468,240	809,000	84 40	200 39	2,101,580	.....	.....	7,717,005	
115,691	149,258	154 72	703 47	364,086	.....	.....	1,194,414	
822,079	553,975	250 82	776 72	1,432,544	.....	3,450	5,387,199	5 per cent. in- crease on real estate.
1,214,175	1,796,585	190 89	588 84	2,839,965	.....	.....	8,147,040	
555,113	888,540	128 58	356 00	2,682,416	.....	.....	9,285,787	
400,313	641,592	51 16	136 01	1,247,972	.....	.....	5,759,934	
512,307	978,090	.....	.....	2,151,392	.....	.....	8,543,299	
198,525	291,882	.....	.....	892,408	.....	.....	2,880,004	
556,841	2,010,394	.....	.....	3,843,861	.....	.....	12,890,667	
348,900	685,500	.....	.....	2,096,432	.....	.....	6,841,182	
2,230,715	4,194,255	.....	.....	2,084,990	\$1,250,310	.....	8,924,485	
393,244	597,534	64 94	189 93	1,694,166	.....	.....	7,283,107	
453,010	626,490	78 29	264 67	2,434,755	.....	2,965	7,510,215	
250,085	469,695	174 71	373 66	1,069,615	.....	2,286	4,882,355	5 per cent. de- crease on real estate.
639,372	944,416	97 42	301 63	2,867,293	.....	3,679	9,210,851	
434,510	800,650	.....	.....	1,715,060	.....	.....	7,372,100	
229,750	318,446	32 47	121 63	1,486,906	.....	3,537	5,090,633	5 per cent. in- crease on real estate.
433,140	650,495	105 50	306 49	1,747,760	48,220	.....	8,977,205	
333,745	559,335	86 53	214 54	1,853,250	.....	2,904	7,478,475	
169,946	228,427	.....	.....	1,218,461	.....	.....	3,931,776	[real estate.
316,608	430,378	45 36	171 60	2,519,744	.....	.....	10,178,942	5 per ct. inc. on
726,270	1,099,141	.....	.....	3,493,875	.....	.....	11,494,028	5 per ct. inc. on
545,579	937,876	134 71	322 07	1,612,527	.....	.....	6,061,541	real estate.
407,884	811,566	152 62	344 63	1,678,588	.....	3,779	7,084,085	5 per ct. dec. on
532,330	808,485	.....	.....	1,594,855	.....	3,695	5,705,925	real estate.
142,259	225,882	40 00	108 00	797,861	.....	1,579	2,678,814	5 per cent. de- crease on real estate.
272,520	432,140	.....	.....	1,361,486	.....	.....	5,686,535	
1,212,915	1,845,384	.....	.....	2,090,810	.....	.....	6,540,689	
198,433	258,165	.....	.....	873,067	.....	.....	2,952,251	
632,495	938,345	144 34	442 82	2,515,145	.....	.....	9,865,010	
1,326,060	2,424,220	.....	.....	3,007,910	.....	.....	10,099,255	
584,070	915,059	85 19	235 53	2,354,986	.....	.....	9,522,807	5 per cent. de- crease on real estate.
196,180	305,145	54 67	153 11	1,655,040	.....	.....	6,344,685	
197,650	354,198	36 83	83 34	1,049,810	.....	2,044	4,792,185	
1,530,520	2,786,600	.....	.....	3,089,775	.....	.....	12,195,570	\$7,555.
480,114	685,606	83 80	275 52	1,729,073	.....	2,541	5,743,230	5 per cent. de- crease on real estate.
231,180	880,670	322 50	.....	1,882,080	.....	4,696	9,282,220	
15,075,214	39,681,360	.....	.....	13,997,850	.....	.....	66,759,285	
394,850	723,570	112 53	244 29	1,496,613	.....	3,718	6,479,771	
110,584	146,987	23 50	94 95	581,807	.....	2,028	1,833,831	
406,328	774,461	.....	.....	1,757,464	.....	.....	6,634,787	5 per cent. in- crease on real estate.
320,710	501,646	23 50	94 95	1,678,384	.....	.....	5,128,965	
966,190	1,644,440	.....	.....	3,424,355	.....	.....	13,492,935	
388,645	600,375	.....	.....	1,949,670	.....	.....	7,186,010	

TABLE No.

Counties.	Acres.	Hundredths.	Value of Lands.	Value of Improvements.	Value of Lands and Improvements.	Average Value of Lands.	Average Value of Lands and Improvements.	Number of City and Town Lots.	Value of Lots.
Newton	254,205	81	\$1,672,358	\$294,570	\$1,966,928	\$6 62	\$7 78	1,443	\$80,296
Noble	255,505	13	2,788,646	1,311,842	4,100,488	16 00	16 00	8,694	339,904
Ohio	54,115	48	786,895	179,460	966,355	18 47	.....	419	40,790
Orange	239,664	79	1,620,500	481,615	2,102,115	8 66	.....	666	46,377
Owen	242,495	80	2,461,814	559,454	3,021,268	9 82	.....	1,846	140,404
Parke	281,812	04	5,644,427	712,466	6,356,893	20 06	22 59	2,062	177,116
Perry	238,108	58	693,860	160,170	854,030	2 91	3 58	7,268	\$29,440
Pike	212,661	28	1,510,764	431,907	1,942,673	7 51	9 68	.....	106,890
Porter	262,100	49	3,037,505	588,636	3,631,140	12 00	18 87	2,234	985,665
Posey	249,270	...	3,780,868	613,770	4,394,638	15 16	17 68	2,626	334,335
Pulaski	435,878	96	1,610,753	299,706	1,910,459	6 62	.....	1,054	68,491
Putnam	306,894	...	6,439,729	1,160,185	7,599,914	21 05	24 84	.....	441,610
Randolph	287,463	49	5,638,260	951,840	6,590,200	19 61	22 92	3,199	439,458
Ripley	282,245	40	2,047,125	460,085	2,607,210	7 25	.....	2,435	38,360
Rush	255,316	...	7,096,835	845,190	7,942,025	28 00	31 10	1,948	183,486
Scott	115,394	41	820,549	170,423	990,972	7 11	8 60	1,146	12,274
Shelby	256,723	36	7,647,290	783,410	8,430,700	30 00	.....	2,546	336,740
Spencer	252,355	78	2,086,208	644,387	2,730,595	8 28	10 82	.....	.....
Stark	190,873	63	71	75,979	76,254	5 43	7 64	660	9,318
Steuben	192,900	62	2,02	482,880	2,603,885	11 01	13 82	2,681	144,850
St. Joseph	245,696	03	5,29	925,755	6,316,928	18 52	21 76	.....	1,784,314
Sullivan	277,970	65	3,81	664,261	3,979,722	11 93	14 32	1,668	188,335
Switzerland	140,753	99	1,69	292,595	1,990,825	12 06	14 14	1,287	95,285
Tippecanoe	313,640	88	7,98	1,167,785	9,153,715	25 46	.....	.....	2,825,825
Tipton	164,105	...	1,68	342,318	2,028,001	10 05	.....	.....	84,144
Union	104,845	81	2,87	414,165	3,291,716	27 00	31 54	684	93,515
Vanderburgh	145,312	67	3,78	681,600	4,468,240	28 05	.....	18231	5,930,145
Vermillion	155,190	...	2,80	399,345	3,208,510	18 07	20 64	1,717	116,336
Vigo	255,338	14	6,17	701,818	6,372,231	27 41	.....	.....	5,678,565
Wabash	258,298	42	3,88	2,010,865	6,894,605	15 00	23 00	3,619	588,790
Warren	229,637	08	3,618,100	618,185	4,286,285	15 76	18 45	1,829	28,536
Warrick	246,785	17	2,135,573	613,432	2,649,005	8 65	10 73	1,889	141,385
Washington	319,922	01	2,890,071	508,327	3,398,398	8 84	10 43	1,256	105,857
Wayne	250,691	41	8,372,690	1,738,510	10,111,200	34 41	40 30	9,681	2,020,245
Wells	232,964	76	3,163,075	646,030	3,809,105	14 16	.....	.....	234,503
White	316,128	15	2,702,029	635,110	3,237,139	8 54	10 23	2,737	118,326
Whitley	210,458	...	3,360,698	643,783	4,004,381	15 97	19 03	1,817	223,676
Total	25,631,946	69	\$326,810,518	\$63,721,296	\$380,531,211	.....	.....	.....	\$72,056,694

XXXVII.—Continued.

Value of Im- provements.	Value of Lots and Improve- ments	Average Value of Lots.	Average Value of Lots and Im- provements.	Value of Person- al Property.	Corporation Stock.	Polls	Total Value of Taxable Prop- erty.	Changes Ordered by the Board.
\$151,786	\$232,012	\$55 63	\$160 78	\$485,725				0 per cent. in- crease on real estate.
608,141	948,445	91 00	256 90	2,257,289				
144,420	185,210	142 36	716 50	550,915		\$767		
140,190	186,567			1,146,453		2,260		
259,549	400,352			1,519,935				
350,090	527,208	85 89	255 67	2,304,386		3,563		
271,530	600,970	81 56	62 68	777,110				
147,225	254,118	46 00	71 85	976,089				
554,945	940,610	172 63	420 42	1,346,715				
511,940	846,265	127 79	322 39	1,778,045		966		
87,917	158,408			567,267				0 per cent. de- crease on real estate.
750,998	1,192,508			2,895,237		3,608		
639,157	1,088,618	137 37	343 48	2,013,510				
160,580	193,940			1,038,560		2,944		
443,100	528,585	136 00	464 00	2,384,220				
63,510	75,784	10 71	66 12	390,659		1,283		
697,770	1,064,510			2,586,150		4,069		
419,683	612,143			1,408,823				
26,384	35,697	10 49	42 33	155,966				1 R. Rev. 10 per cent. decrease on real estate.
236,945	371,795	54 44	139 72	864,465		2,586		
1,914,040	3,698,354			8,909,293				per cent. de- crease on real estate.
869,683	658,218	113 03	396 67	1,378,900		8,623		
214,665	809,950	74 03	240 83	853,970				
4,352,410	5,178,235			5,505,585		5,498		
194,989	209,126			663,913		2,227		
161,760	255,075	186 86	372 77	1,478,620		1,260		
4,347,010	10,277,155			6,185,710				
281,775	397,160	67 20	231 90	1,453,020				
4,071,915	9,750,480			5,227,959		5,630		
888,295	1,477,075	162 73	408 20	2,707,535				
131,095	159,630	15 60	87 27	1,296,105				per cent. in- crease on real estate.
319,230	460,615	74 85	244 00	1,367,055				
285,905	391,762	84 28	311 91	1,806,687		2,815		
3,087,805	5,108,050	208 68	627 63	6,185,863	\$15,895 66	8,665		
258,365	492,870			1,453,405		3,215		per ct. dec. on real estate.
267,303	385,689	43 19	140 91	1,098,892		2,414	4,721,719	
285,744	509,420	123 10	260 36	1,480,540		2,726	5,994,341	10 per ct. dec. on real estate.
\$71,873,971	\$144,952,659			\$192,382,202			\$728,944,991	

TABLE No. XXXV III.

Table of Main Track, Side Track and Rolling Stock of Railroads in Indiana, for the year 1880, as Assessed and Equalized by the State Board of Equalization.

	Names of Roads.	Main Track.		Side Track.		Rolling Stock.		Total Assessment.
		Miles.	Per mille.	Total.	Miles.	Per mille.	Total.	
1	Anderson, Lebanon & St. Louis.....	19.37	\$2,000	\$38,740	1.35	\$800	\$15	\$40,110
2	Baltimore & Ohio & Chicago.....	146.35	8,000	1,170,800	15.63	2,500	263,430	1,473,305
3	Bedford, Springfield, Owensburg & Bloomfield.....	41.00	1,200	49,200	2.00	400	12,300	62,300
4	Bloomfield Narrow Gauge.....	9.00	1,000	9,000	.....	.....	4,500	13,500
5	Cleveland, Columbus, Cincinnati & Indianapolis.....	83.84	10,500	880,320	27.23	3,000	335,360	1,297,370
6	Cincinnati, Hamilton & Indianapolis.....	78.63	7,000	550,410	8.68	3,000	157,260	738,710
7	Cincinnati, Richmond & Fort Wayne.....	85.89	4,500	386,505	3.65	2,500	8,435	399,065
8	Cincinnati, Richmond & Chicago.....	5.98	8,000	47,840	0.85	2,000	1,200	56,716
9	Cincinnati, Wabash & Michigan.....	109.51	4,000	438,040	5.48	2,500	54,755	506,495
10	Cincinnati, Lafayette & Chicago.....	23.77	5,000	118,850	3.26	2,000	59,425	184,795
11	Cincinnati, Indianapolis, St. Louis & Chicago.....	153.69	7,500	1,152,675	30.77	2,000	307,380	1,521,595
12	Lawrenceburg Branch of same.....	2.57	7,500	19,275	5.05	2,000	5,140	34,515
13	Cincinnati, Rockport & Southwestern.....	37.14	3,000	111,420	0.99	800	12,999	125,211
14	Cairo & Vincennes.....	6.92	4,000	27,680	.....	.....	3,460	31,140
15	Chicago & Eastern Illinois.....	19.61	4,000	78,440	4.74	2,000	89,320	127,140
16	Chicago, Cincinnati & Louisville.....	71.47	3,000	214,410	5.01	1,500	71,470	293,395
17	Chicago & Block Coal.....	12.75	2,000	25,500	0.13	1,000	638	26,263
18	*Chicago & Canada Southern.....	.....	.....	.....	.....	.....	.....	54,846
19	Eel River.....	93.84	4,500	422,280	7.79	1,800	65,688	501,990
20	Evansville & Terre Haute.....	108.40	7,000	758,800	29.87	2,500	249,320	1,082,795
21	Evansville, Terre Haute & Chicago.....	62.68	5,000	313,400	10.13	2,000	62,680	396,810
22	Frankfort & Kokomo.....	26.55	2,000	51,100	1.08	2,000	7,685	60,925
23	Fort Wayne, Muncie & Cincinnati.....	104.17	3,000	312,510	5.66	2,000	72,919	396,749
24	Fort Wayne & Jackson.....	52.39	5,000	261,950	5.46	2,000	47,151	320,021
25	Fairland, Franklin & Martinsville.....	38.80	2,000	76,600	1.82	600	2,106	79,798
26	Grand Rapids & Indiana.....	52.97	5,500	287,485	2.52	2,500	52,270	346,055
27	Havana, Rantoul & Eastern.....	8.50	1,500	12,750	0.14	600	1,700	14,534
28	Indiana (Chicago & Grand Trunk).....	79.00	8,000	632,000	5.70	2,000	39,500	682,900
29	Indianapolis Union Railway Company.....	3.23	40,000	129,200	.....	.....	.....	129,200
30	Indianapolis, Peru & Chicago.....	72.87	7,000	510,090	11.73	2,500	116,592	656,007
31	Indianapolis, Decatur & Springfield.....	74.77	5,000	378,850	6.04	1,600	89,724	471,638

* For right of way.

32	Indianapolis & St. Louis	79.43	8,500	073,070	15.60	2,500	38,750	79.42	1,500	119,130	832,950
33	Indianapolis, Delphi & Chicago.....	26.42	1,750	46,235	0.66	500	330	26.42	250	6,605	63,170
34	Indiana, Bloomington & Western	78.61	8,500	668,185	15.33	2,500	38,825	78.61	1,800	141,498	848,008
35	Joliet & Northern Indiana	15.40	12,000	181,800	1.94	4,000	7,780	.....	.....	None.	192,560
36	Indianapolis & Vincennes.....	116.44	3,500	407,540	6.35	2,000	10,700	116.44	800	93,152	511,392
37	Jeffersonville, Madison & Indianapolis.....	110.28	8,000	882,240	22.38	3,400	76,092	110.28	2,500	275,700	1,284,032
38	Madison Branch of same	45.90	3,500	160,650	5.63	1,400	7,882	45.90	750	34,425	202,957
39	Columbus & Shelbyville Branch of same.....	23.28	3,000	69,840	0.93	1,400	1,372	23.28	750	17,459	88,671
40	Shelbyville & Rushville Branch of same.....	18.42	3,000	55,260	0.98	1,400	1,372	18.42	750	13,815	70,447
41	Cambridge City Extension of same.....	20.97	3,000	62,910	0.72	1,400	1,008	20.97	750	15,727	79,645
42	Kingan	0.42	5,000	2,100	0.40	3,000	1,380	.....	.....	.....	3,480
43	Louisville & Nashville.....	28.41	5,500	156,255	3.85	2,200	8,470	28.41	1,200	34,092	198,817
44	Louisville, New Albany & Chicago.....	288.26	3,000	864,780	24.45	1,000	24,450	288.26	675	165,749	1,054,979
45	Louisville, New Albany & St. Louis Air Line.....	26.00	2,000	52,090	.....	.....	.....	26.00	250	6,500	58,500
46	Little Miami.....	4.19	5,000	20,950	0.94	2,000	1,880	4.19	1,500	6,285	29,115
47	Lake Shore & Michigan Southern.....	167.76	17,000	2,851,920	69.42	4,000	277,680	167.76	4,000	671,040	3,800,640
48	Lake Erie & Western	157.89	5,500	868,895	14.14	3,000	42,420	157.89	1,000	157,890	1,068,705
49	Lake Erie, Evansville & Southwestern.....	17.00	2,500	42,500	0.45	1,200	540	17.00	400	6,800	49,840
50	Michigan Air Line	5.62	5,000	28,100	1.01	2,000	2,020	.....	.....	.....	30,120
51	Michigan City & Indianapolis.....	12.75	3,000	38,250	5.06	1,400	7,084	12.75	1,000	12,760	58,084
52	Michigan Central	42.41	17,000	720,970	24.72	4,000	98,880	42.41	4,000	169,640	989,490
53	Ohio & Mississippi	171.89	8,000	1,375,120	28.32	3,000	84,960	171.89	1,800	309,402	1,769,482
54	Louisville Branch of same	53.31	5,000	266,550	6.25	2,000	12,500	53.31	1,800	95,958	375,008
55	Pittsburg, Cincinnati & St. Louis.....	416.64	7,750	3,228,960	45.72	3,000	137,160	416.64	1,700	708,288	4,074,408
56	Pittsburg, Fort Wayne & Chicago	152.57	17,000	2,593,690	48.10	4,000	192,400	152.57	4,000	610,280	3,396,370
57	Terre Haute & Logansport.....	115.07	3,000	345,210	9.50	2,000	19,000	115.07	500	57,535	421,745
58	Terre Haute & Indianapolis.....	79.88	12,000	958,560	74.82	2,000	149,640	79.88	4,500	359,460	1,467,660
59	Terre Haute & Southeastern.....	40.00	8,500	140,000	2.37	1,400	3,318	40.00	280	9,200	152,518
60	Toledo, Delphos & Burlington.....	37.30	1,000	37,300	0.66	1,000	660	.....	.....	.....	37,960
61	Union Railroad, Transfer & Stock Yard.....	12.10	20,000	242,000	6.07	6,000	36,420	12.10	2,000	24,200	302,620
62	Wabash, St. Louis & Pacific.....	166.00	12,500	2,075,000	46.00	4,000	184,000	166.00	2,500	415,000	2,674,000
63	Whitewater.....	61.40	2,500	153,500	4.00	1,200	4,800	61.40	600	36,840	195,140
Total		4,275.47	.....	\$29,735,960	287.54	.....	\$1,932,162	.....	.....	\$6,719,973	\$38,442,941

RECAPITULATION.

	Miles.	Value.
Main Track.....	4,275.47	\$29,735,960
Side Track.....	687.64	1,932,162
Rolling Stock.....	.....	6,719,973
Canada Southern right of way.....	.....	54,846
Total .....	.....	\$38,442,941

TABLE No. XXXIX.

General Road Statistics.

Table showing the Cost of Construction and Equipment, and Appraised Value for Taxation of Railroads, the Cost of Construction of Turnpikes and other Toll Roads, Free Gravel Roads and Common Roads, the Length in Miles of each kind of road, the Number of Acres occupied as road-bed for all kinds of road, and the Value of such Lands as indicated by the appraised value of adjoining lands.

NOTE.—The cost of construction and equipment of railroads is obtained by dividing the cost by the length of main track as the same are given in 'Poore's Manual,' and multiplying this rate per mile by the number of miles of main track in each county, as per report of the Auditor of State for 1879. The value for taxation is taken from said report. The cost of turnpikes, free gravel roads, etc., is given by the several County Auditors on Form No. 3. The cost of common roads is estimated on a basis of clearing per acre, and the grading, etc., per mile, on the judgment of competent civil engineers.

Counties.	Railroads.		Turnpikes and Other Toll Roads.		Free Gravel Roads.		Common Roads.		Acreage and Value of Land Occupied by Roads	
	Miles of Road.	Cost of Construction and Equipment.	Valuation for Taxation.	Miles of Road.	Cost of Construction.	Miles of Road.	Cost of Construction and Maintenance for the last 10 years.	Miles of Road.	Acres of all Roadways.	Appraised Value of Land Occupied by Roads of all kinds.
Adams	24.54	\$1,007,612	\$126,682	.....	.....	.....	.....	659	2,783	\$27,830
Allen	112.12	5,414,401	1,521,656	27	\$89,643	.....	.....	1,242	5,749	103,482
Bartholomew	41.38	1,156,985	321,748	86	65,700	.....	.....	661	2,637	80,651
Benton	45.81	1,505,505	855,570	.....	.....	.....	.....	549	2,471	39,536
Blackford	27.85	1,818,727	191,496	.....	.....	.....	.....	282	1,293	15,516
Boone	33.79	3,351,647	331,195	20	25,025	.....	.....	726	3,187	76,488
Brown	None.	.....	.....	3	5,700	.....	.....	755	3,032	12,128
Carroll	35.20	1,465,930	322,890	10	.....	.....	.....	660	2,491	44,838
Cass	87.24	6,690,745	894,965	33	33,000	.....	.....	678	3,367	53,872
Clark	61.32	2,419,276	503,018	24	72,000	.....	.....	600	2,464	36,960
Clay	37.36	875,180	483,104	.....	.....	.....	.....	573	2,516	40,256
Clinton	64.37	1,942,939	305,365	20	45,666	.....	.....	640	3,026	51,442
Crawford	None.	.....	.....	.....	.....	.....	.....	150	60,000	1,800
Davless	18.18	1,022,225	189,840	.....	.....	.....	.....	499	2,105	25,280
Dearborn	51.77	3,559,770	487,144	.....	.....	.....	.....	604	2,727	46,359

Decatur	20.79	1,899,185	217,585	.....	.....	.....	628	312,000	2,841	68,664
Dekalb	80.67	3,996,783	941,961	.....	.....	.....	748	999,200	3,476	65,044
Delaware	52.09	1,888,481	498,544	93	.....	.....	718	356,500	3,536	74,258
Dubois.....	13.60	3,302,410	45,978	.....	.....	.....	246	98,400	1,086	6,396
Elkhart	57.59	3,689,018	1,088,812	60	.....	.....	910	864,000	3,886	95,664
Fayette.....	42.57	1,643,898	286,888	.....	50	79,900	843	171,500	2,067	62,010
Floyd.....	9.80	290,124	52,244	21	.....	.....	224	128,000	1,038	34,264
Fountain.....	50.95	2,780,585	447,528	.....	.....	.....	637	254,800	2,854	62,788
Franklin	30.96	874,063	120,778	52	.....	.....	689	319,500	2,850	47,200
Fulton.....	13.27	398,100	54,595	.....	.....	.....	558	167,400	2,312	25,432
Gibson.....	35.54	770,145	255,289	.....	.....	.....	616	246,400	2,677	30,155
Grant	45.54	2,828,583	380,865	39	.....	.....	776	310,400	3,533	63,594
Greene.....	49.08	1,134,997	180,576	.....	.....	.....	675	270,000	2,994	29,940
Hamilton.....	29.41	324,012	201,574	35	.....	.....	797	398,500	3,504	101,616
Hancock.....	34.40	2,692,779	374,602	109	.....	.....	463	281,000	2,490	64,740
Harrison.....	None.....	.....	.....	22	.....	.....	599	239,600	2,474	17,318
Hendricks.....	58.22	2,346,136	754,205	42	.....	13	662	284,800	3,217	99,727
Henry.....	62.17	4,951,123	508,804	140	.....	.....	677	338,500	3,641	83,743
Howard	87.46	1,687,077	264,863	64	.....	103	462	184,800	2,369	37,904
Huntington.....	20.25	973,114	344,560	33	.....	245	710	355,000	3,189	47,835
Jackson	50.83	2,297,515	535,428	7	.....	6	560	224,000	2,597	31,164
Jasper.....	17.63	1,126,380	102,288	.....	.....	.....	642	163,600	2,273	13,638
Jay.....	27.81	1,676,225	185,948	11	.....	33	729	291,600	3,269	35,849
Jefferson.....	21.99	690,081	116,391	51	.....	.....	898	198,000	1,928	21,208
Jennings.....	64.22	2,998,808	463,273	.....	.....	.....	609	243,600	2,821	19,747
Johnson.....	41.04	998,934	274,547	89	.....	3	452	216,000	2,422	77,504
Knox.....	78.19	2,009,175	594,760	.....	.....	.....	580	232,000	2,789	36,257
Kosciusko.....	67.13	2,854,604	832,169	.....	.....	.....	979	293,700	4,078	61,170
Lagrange.	16.57	551,416	121,682	.....	.....	.....	665	266,000	2,759	44,144
Lake.....	110.13	7,009,134	1,823,348	.....	.....	.....	616	206,400	2,724	32,688
Laporte	156.19	7,469,078	1,720,604	.....	.....	.....	866	842,000	5,157	77,355
Lawrence.....	66.98	2,428,514	386,301	.....	.....	.....	615	206,000	2,462	29,544
Madison.....	88.69	3,743,215	783,484	61	.....	.....	880	352,000	4,296	107,400
Marion.....	137.29	7,912,676	1,793,839	146	.....	.....	643	324,000	4,000	292,000
Marshall.....	66.23	3,220,325	830,145	.....	.....	.....	790	237,000	3,557	49,798
Martin.....	19.40	1,090,823	197,000	.....	.....	.....	279	111,600	1,232	5,914
Miami.....	76.14	3,682,611	664,798	36	.....	.....	711	284,400	3,445	58,585
Monroe.....	28.32	879,600	107,039	.....	.....	.....	878	149,200	1,658	17,848
Montgomery.....	82.07	3,990,946	468,774	67	.....	31	649	324,500	3,480	102,840
Morgan.....	40.24	1,359,794	147,587	.....	6	7,000	683	273,200	2,998	62,853
Newton.....	14.98	1,422,550	147,633	.....	.....	.....	459	187,700	1,926	22,149
Noble.....	74.22	3,728,762	1,025,093	.....	.....	.....	765	306,000	3,505	45,565
Ohio.....	None.....	.....	.....	13	.....	23,500	78	39,000	425	5,950
Orange.....	9.61	288,300	34,956	10	.....	.....	343	137,200	1,470	11,025
Owen.....	35.08	1,287,531	145,938	.....	6	.....	585	234,000	2,550	29,825
Parke.....	45.57	1,217,556	217,289	.....	13	.....	751	300,400	3,881	75,734
Perry.....	None.....	.....	.....	.....	.....	.....	436	174,400	1,744	6,976
Pike.....	None.....	.....	.....	.....	.....	.....	324	129,600	1,296	11,405
Porter.....	90.10	6,662,265	1,467,477	.....	.....	.....	465	186,000	2,220	28,860
Posey.....	25.81	1,237,967	156,250	.....	.....	.....	478	191,200	2,067	83,072

TABLE No. XXXIX.—Continued.

Counties.	Railroads.			Turnpikes and Other Toll Roads.		Free Gravel Roads.		Common Roads.		Acreage and Value of Land Occupied by Roads.	
	Miles of Road.	Cost of Construction and Equipment.	Valuation for Taxation.	Miles of Road.	Cost of Construction.	Miles of Road.	Cost of Construction.	Miles of Road.	Estimated Cost of Construction and Maintenance for the last 10 years.	Acres of all Roadways.	Appraised Value of Land Occupied by Roads of all kinds.
Pulaski.....	39.14	\$2,614,825	\$269,214	.....	.....	.....	.....	486	\$145,800	2,179	\$11,331
Putnam.....	72.09	1,749,601	695,953	45	.....	.....	.....	755	377,500	8,632	90,890
Randolph.....	59.67	3,459,651	629,818	91	131,263	.....	.....	883	333,200	4,054	86,754
Ripley.....	30.74	2,070,546	315,060	5	8,000	.....	.....	604	302,000	2,620	20,698
Rush.....	39.07	1,763,999	247,138	102	140,148	.....	.....	692	346,000	3,410	110,825
Scott.....	16.89	603,125	166,098	.....	.....	.....	.....	282	112,800	1,229	8,234
Shelby.....	58.89	3,849,270	894,097	56	92,809	.....	.....	696	348,000	3,358	116,182
Spencer.....	23.54	523,435	79,259	.....	.....	.....	.....	615	246,000	2,601	28,091
Starke.....	27.68	2,095,876	372,377	.....	.....	.....	.....	362	108,600	1,614	6,859
St. Joseph.....	61.20	3,415,102	768,082	.....	.....	60	.....	730	292,000	3,487	59,279
Steuben.....	18.39	562,399	125,843	.....	.....	.....	.....	631	248,400	2,594	37,853
Sullivan.....	25.26	642,968	288,641	.....	.....	.....	.....	726	290,400	3,056	36,672
Switzerland.....	None.....	.....	.....	41	89,995	.....	.....	344	172,000	1,640	24,178
Tippecanoe.....	97.22	4,304,677	922,681	16	30,000	.....	.....	704	231,600	3,463	93,501
Tipton.....	45.11	1,693,656	356,282	8	20,000	.....	.....	503	201,200	2,315	31,021
Union.....	16.32	1,026,234	147,432	66	137,258	.....	.....	248	124,000	1,354	37,098
Vanderburg.....	27.98	923,507	216,167	.....	.....	57	.....	247	123,500	1,384	41,520
Vermillion.....	45.93	1,195,774	309,309	.....	.....	.....	.....	372	148,800	1,778	33,782
Vigo.....	78.86	1,963,304	797,146	.....	.....	.....	.....	675	270,000	3,245	90,860
Wabash.....	63.75	2,070,762	640,871	.....	.....	.....	.....	728	291,200	3,506	62,690
Warren.....	37.48	1,879,601	399,134	53	106,000	.....	.....	532	312,800	2,353	47,295
Warrick.....	10.67	240,076	27,607	.....	.....	.....	.....	499	199,600	2,060	24,720
Washington.....	27.61	828,300	100,586	8	9,952	.....	.....	590	236,000	2,557	24,291
Wayne.....	88.68	5,521,038	635,756	126	192,402	.....	.....	397	318,500	3,824	141,105
Wells.....	25.12	874,005	115,512	.....	.....	.....	.....	755	302,000	3,171	41,223
White.....	69.10	3,917,082	384,529	.....	.....	.....	.....	688	204,900	3,147	35,875
Whitley.....	40.18	2,409,919	430,532	.....	.....	.....	.....	677	202,100	2,949	44,235
Total.....	4,084.61	\$192,066,196	\$38,019,926	2,060	\$3,672,454	232.55	\$625,465	64,813	\$32,536,200	*\$249,686	\$4,528,929

* This is 1½ per cent. of the land in the State outside of cities and incorporated towns. † This sum, though large, is confirmed by correspondence with the Auditor.

TABLE No. XL.

Common Wealth.

Table showing the Value invested in Turnpikes and other Toll Roads, Free Gravel Roads, Common Roads, Railroads, School and College Buildings, Church Buildings, Public Buildings, Bridges, and amount of Permanent School Fund; also, showing the grand total amount invested for the use of the Public, the amount per Taxable Poll, and the amount per Acre, excluding City, Town and Village sites.

Counties.	Total Value Invested in Roads of all kinds.	Total Value Invested in School and College Bldgs.	Total Value Invested in Church Buildings.	Total Value Invested in Public Buildings, including Poor Farms.	Total Value Invested in Bridges.	Total Amount Per Manent School Fund.	Total Value Invested for Use of the Public.	Amount per Taxable Poll.	Amount per Acre, excluding City, Town and Village Sites.
Adams.....	\$1,271,212	\$52,475	\$101,900	\$109,200	\$40,000	\$36,787	\$1,611,574	\$494 04	\$7 59
Allen.....	6,124,944	582,755	597,120	211,000	N. R.....	101,153	7,616,972	598 86	18 54
Bartholomew.....	1,447,085	168,480	170,902	N. R.....	N. R.....	81,878	1,868,845	341 68	7 46
Benton.....	1,670,205	41,677	83,600	86,800	4,000	63,928	1,890,170	708 15	7 33
Blackford.....	1,935,527	28,150	26,420	27,000	11,000	17,000	2,045,097	1,131 76	19 78
Boone.....	3,677,072	109,900	128,075	50,600	N. R.....	61,169	4,027,016	666 17	15 09
Brown.....	307,700	23,800	12,300	14,200	1,000	22,132	380,132	190 44	2 02
Carroll.....	1,745,930	141,790	76,525	134,000	N. R.....	58,479	2,166,724	499 47	9 23
Cass.....	6,962,745	282,050	184,280	55,200	70,000	65,398	7,619,678	1,080 34	31 92
Clark.....	2,669,276	138,564	136,950	65,900	40,000	54,218	3,104,908	507 00	13 07
Clay.....	1,104,380	99,120	82,345	39,550	40,000	37,855	1,403,250	245 53	6 23
Clinton.....	2,308,499	101,400	76,685	49,000	N. R.....	49,001	2,584,585	490 34	10 00
Crawford.....	60,000	30,600	27,340	5,509	12,000	27,198	162,638	69 41	82
Davies.....	1,221,825	46,100	134,736	97,100	10,000	63,691	1,563,352	332 13	6 77
Dearborn.....	3,861,770	137,700	212,670	19,500	N. R.....	75,200	4,306,840	725 54	22 23
Decatur.....	2,406,506	141,485	144,390	85,000	6,000	52,483	2,834,763	539 23	11 84
Dekalb.....	4,235,983	156,760	120,975	66,000	N. R.....	43,687	4,683,895	897 03	20 44
Delaware.....	2,444,924	133,940	159,880	24,750	N. R.....	58,277	2,821,771	556 89	11 28
Dubois.....	400,810	39,480	180,205	28,000	N. R.....	32,342	680,837	209 67	2 55
Elkhart.....	4,033,018	230,637	250,588	103,600	N. R.....	79,220	4,697,063	592 61	16 20
Fayette.....	1,890,278	62,850	64,795	27,600	5,000	32,811	2,082,834	713 78	16 55
Floyd.....	460,171	263,450	346,075	146,000	30,000	45,690	1,291,386	263 96	38 53
Fountain.....	3,035,325	131,650	62,936	109,750	30,000	47,760	3,417,471	697 58	18 67
Franklin.....	1,278,569	110,600	114,495	51,850	225,000	79,940	1,860,464	336 54	7 61
Fulton.....	565,500	43,530	69,015	24,500	16,200	40,318	764,043	230 21	8

TABLE No. XL.—Continued.

Counties.	Total Value Invest- ed in Roads of all kinds.	Total Value Invest- ed in School and College Build- ings.	Total Value Invest- ed in Church Buildings.	Total Value Invest- ed in Public Buildings, in- cluding Poor Farms.	Total Value Invest- ed in Bridges.	Total Amount Per- manent School Fund.	Total Value Invest- ed for Use of the Public.	Amount per Taxa- ble Poll.	Amount per Acre, excluding City, Town and Vill- age Sites.
Gibson.....	\$1,016,545	\$104,025	\$102,965	N. R.....	N. R.....	\$73,339	\$1,296,924	\$271 76	\$4 26
Grant.....	3,212,370	64,440	63,875	\$29,800	\$16,225	64,779	3,451,489	682 43	13 01
Greene.....	1,404,997	94,825	51,875	19,000	45,000	50,934	1,666,631	343 77	4 60
Hamilton	787,012	131,500	76,270	203,600	70,000	55,866	1,324,248	237 57	5 32
Hancock	3,094,924	71,060	34,270	63,500	N. R.....	35,234	3,288,968	826 37	17 28
Harrison.....	296,165	67,900	66,200	13,000	18,000	61,304	521,569	120 17	1 39
Hendricks.....	2,636,446	142,800	101,350	159,625	10,000	57,655	3,107,377	598 35	12 15
Henry.....	5,495,463	142,687	95,720	158,000	*None...	61,160	5,952,980	1,023 72	24 09
Howard.....	2,045,503	109,730	112,240	92,000	15,000	40,786	2,415,259	519 52	13 12
Huntington.....	1,435,149	135,219	124,130	75,000	200,000	56,661	2,026,159	401 14	8 46
Jackson.....	2,528,575	99,150	67,700	109,600	75,000	43,274	2,913,139	616 92	9 38
Jasper.....	1,288,980	42,250	41,480	16,500	15,000	59,907	1,464,067	647 81	4 14
Jay.....	2,023,132	94,841	40,460	53,500	20,000	47,331	2,273,254	550 54	9 38
Jefferson.....	1,015,227	218,300	198,510	46,800	10,000	78,623	1,562,470	260 15	6 83
Jennings.....	3,243,408	59,965	65,300	46,580	18,000	34,885	3,468,118	931 78	15 29
Johnson	1,379,178	165,900	136,150	84,944	N. R.....	45,610	1,781,782	386 67	9 08
Knox	2,241,175	150,650	209,466	352,600	N. R.....	75,304	3,029,195	549 96	9 46
Kosciusko.....	3,148,304	173,326	110,395	49,500	N. R.....	60,596	3,542,121	580 63	10 42
Lagrange.....	817,416	116,440	57,032	72,000	6,000	38,127	1,107,015	291 80	4 62
Lake.....	7,215,534	72,575	21,665	87,000	N. R.....	47,476	7,444,250	2,135 47	24 42
Laporte.....	7,811,078	215,825	292,997	39,500	20,065	94,629	8,474,094	1,142 24	23 07
Lawrence.....	2,634,514	75,100	66,232	90,000	35,000	45,832	3,944,668	658 44	10 21
Madison.....	4,175,646	106,800	85,090	26,000	28,000	57,994	4,479,530	742 39	15 92
Marion.....	8,484,460	1,442,953	1,661,720	1,720,000	150,000	140,233	13,593,366	530 14	59 64
Marshall.....	3,457,325	121,250	67,911	129,000	12,000	49,764	3,837,250	745 73	13 81
Martin.....	1,202,428	44,049	25,210	30,100	18,600	25,896	1,346,283	506 88	6 01
Miami.....	4,066,263	151,700	90,985	97,400	40,000	58,684	4,504,032	802 03	19 13
Monroe.....	1,028,800	169,950	43,245	48,000	N. R.....	58,148	1,348,143	388 96	5 27
Montgomery	4,467,688	334,990	165,400	1-4,000	35,000	55,991	5,232,964	768 40	16 50
Morgan.....	1,639,994	77,917	62,930	84,000	100,000	46,609	2,011,450	461 02	8 16
Newton.....	1,560,250	52,995	29,975	6,605	N. R.....	49,601	1,699,426	802 87	6 70
Noble.....	4,034,762	165,600	157,255	75,000	N. R.....	48,394	4,480,911	822 48	17 60
Ohio	57,131	35,680	26,795	7,800	6,000	24,677	188,083	143 68	2 92
Orange.....	437,940	67,800	36,940	22,300	28,000	30,038	617,318	203 80	2 52
Owen.....	1,521,581	75,500	55,525	22,000	30,000	46,202	1,751,758	501 79	7 27
Parke.....	1,565,456	128,623	59,320	102,400	140,000	61,157	2,036,861	488 66	7 81

Perry.....	171,400	81,570	98,435	17,100	95,000	53,907	520,412	150 36	2 20
Pike	129,600	42,900	51,860	31,150	20,000	41,882	317,392	90 73	1 56
Porter	5,948,265	96,900	123,413	50,500	900	41,763	6,161,741	1,530 48	23 51
Posey.....	1,429,167	130,400	88,214	114,930	50,000	74,963	1,887,679	417 07	7 47
Pulaski.....	2,760,625	27,722	30,750	24,000	27,000	35,672	2,905,769	1,266 13	10 78
Putnam.....	2,211,985	309,928	131,620	36,664	24,700	62,928	2,771,776	538 73	9 09
Randolph.....	3,928,114	171,600	107,119	91,700	N. R.....	67,288	4,965,901	724 51	15 36
Ripley	2,380,546	73,650	84,090	37,500	4,000	58,880	2,633,606	571 17	9 36
Rush.....	2,250,147	91,800	85,150	28,000	15,000	64,578	2,534,170	543 58	10 06
Scott.....	715,925	21,800	20,090	40,200	N. R.....	20,898	818,913	483 74	6 91
Shelby	3,769,579	129,400	135,279	126,400	N. R.....	58,365	4,239,023	762 55	16 56
Spencer.....	2,204,476	249,441	56,540	44,500	N. R.....	57,986	1,177,902	245 29	4 95
Starke	810,799	26,600	9,430	23,500	5,000	17,998	2,286,999	1,961 40	12 06
Steuben.....	3,707,102	86,700	61,530	64,400	N. R.....	34,436	1,067,865	275 98	5 50
St. Joseph	933,368	460,827	238,285	105,000	N. R.....	68,990	4,590,204	627 16	16 08
Sullivan.....	261,995	79,300	97,950	58,500	N. R.....	46,925	1,211,043	257 12	4 27
Switzerland	4,616,277	76,050	58,270	37,000	15,000	42,010	490,325	159 11	3 34
Tippecanoe.....	1,914,856	347,090	363,912	85,000	N. R.....	83,543	5,500,828	633 88	17 62
Tipton	1,287,492	58,300	32,810	17,500	N. R.....	40,261	2,058,727	636 98	12 37
Union	1,447,007	43,000	23,200	57,000	25,000	53,386	1,489,078	775 15	14 27
Vanderburgh.....	1,349,974	580,675	641,900	205,000	N. R.....	103,531	2,981,113	333 01	20 51
Vermillion	2,237,304	55,100	23,350	36,700	30,000	62,319	1,567,443	661 84	10 16
Vigo	2,467,962	292,420	424,258	118,000	N. R.....	104,009	3,175,991	346 42	12 53
Wabash.....	2,092,301	157,700	157,624	81,000	75,000	54,915	2,994,201	510 95	11 31
Warren.....	439,675	73,550	42,402	65,000	75,000	77,600	2,425,853	883 41	10 56
Warrick	1,074,252	68,475	47,235	28,000	160,000	51,613	803,898	184 97	3 22
Washington.....	6,064,960	344,070	382,650	5,700	None.	64,041	1,274,002	317 40	3 95
Wayne.....	1,156,005	66,375	58,070	1,800	None.	108,308	7,000,788	789 81	27 78
Wells	4,121,982	90,200	54,325	22,500	30,000	45,147	1,376,097	342 48	5 46
White.....	2,612,019	92,875	95,720	16,200	N. R.....	50,140	4,332,847	1,331 13	13 61
Whitley.....				67,570	18,000	36,070	2,922,254	743 84	13 38
Total held by Counties.....	\$218,865,411	\$13,228,826	\$13,085,140	\$7,845,349	\$2,365,690	\$5,065,427	\$259,545,843	.....	.....
Total held or controlled by State.....	.....	1,455,000	.....	3,953,804	.....	3,904,783	9,313,067	.....	.....
Grand total.....	.....	\$14,683,826	.....	\$11,798,653	.....	\$8,970,210	\$268,758,930	.....	.....

NOTE.—The values of railroads are taken from returns made by the companies for "Poore's Manual," and the number of acres are taken from report of the Auditor of State for 1879. The value of common school buildings and amount of school fund is taken from the report of the Superintendent of Public Instruction for 1878. The other items were obtained by the Bureau from the county, township, city and town officials.

Remark: Every foreigner who buys a farm, town or city lot in Indiana, buys an interest in this accumulated public capital, which in a new country is to be borne until accumulated.

Church estimated at \$2 per capita of estimated population. State property includes grounds, libraries, etc. "N. R.," not reported.

Carroll county, 60 bridges, no value reported; Dearborn county, 9 bridges, no value reported; Delaware county, 20 bridges, no value reported; Elkhart county, 130 bridges, no value reported; Hancock county, 5 bridges, no value reported; Henry county, all bridges belong to gravel road companies; Johnson county, 12 bridges, no value reported; Monroe county, 11 bridges, no value reported; Spencer county, 200 bridges, no value reported; Sullivan county, 150 bridges, no value reported; Vigo county, 40 bridges, no value reported; Washington county, none in the county; Wayne county, none in the county; White county, 12 bridges, no value reported.

TABLE No. XLI.

Statement showing the Domestic Exports of the United States, and the Gross Export Value thereof, from 1862 to 1880, inclusive, as shown by the several reports on Commerce and Navigation, and the Price per Unit of Measure, as deduced by this Bureau.

Commodities.	1880.	1879.	1878.	1877.	1876.
Bushels of Wheat.....	153,252,795	122,353,936	72,404,961	40,325,611	55,073,122
Total value.....	\$190,546,305	\$130,701,079	\$96,872,016	\$47,133,562	\$68,382,899
Price per bushel.....	\$1.24	\$1.07	\$1.34	\$1.17	\$1.24
Barrels of Flour.....	6,011,419	5,629,714	3,947,333	3,343,665	3,935,512
Total value.....	\$35,333,197	\$29,567,713	\$25,095,721	\$21,668,947	\$21,433,470
Price per barrel.....	\$5.88	\$5.25	\$6.35	\$6.48	\$5.45
Bushels of Corn.....	98,169,877	86,296,252	85,461,098	70,860,983	49,493,572
Total value.....	\$53,298,247	\$40,655,120	\$48,030,358	\$41,621,245	\$33,265,290
Price per bushel.....	\$0.54	\$0.47	\$0.56	\$0.59	\$0.67
Pounds of Pork.....	95,949,780	84,401,676	71,889,255	69,671,894	54,195,118
Total value.....	\$5,930,252	\$1,807,568	\$1,913,657	\$6,296,414	\$5,744,022
Price per pound.....	\$0.06 1-5	\$0.05½	\$0.07	\$0.09	\$0.10 3-5
Pounds of Beef.....	129,954,666	90,976,395	54,046,776	39,155,153	36,596,150
Total value.....	\$10,322,965	\$7,219,458	\$5,009,856	\$2,950,952	\$3,186,304
Price per pound.....	\$0.08	\$0.08	\$0.09	\$0.07½	\$0.08½
Pounds of Bacon.....	759,773,109	732,249,576	592,814,351	460,057,146	327,780,173
Total value.....	\$50,987,623	\$51,074,433	\$51,752,068	\$19,512,412	\$39,664,456
Price per pound.....	\$0.07	\$0.07	\$0.08	\$0.10	\$0.12
Pounds of Raw Cotton.....	1,822,061,114	1,628,372,883	1,601,208,364	1,441,974,406	1,488,760,543
Total value.....	\$211,536,904	\$162,304,250	\$178,415,270	\$170,033,999	\$191,717,459
Price per pound.....	\$0.11½	\$0.10	\$0.11	\$0.11	\$0.12
Pig Iron—cwt.	29,488	68,281	115,633	63,601	135,837
Total value.....	\$54,115	\$85,949	\$144,148	\$99,029	\$181,663
Price per cwt.....	\$1.83½	\$1.25	\$1.24	\$1.39	\$1.33
Railroad Iron—cwt.....	15,558	115,188	164,767	105,781	90,042
Total value.....	\$32,746	\$177,151	\$324,986	\$243,811	\$57,109
Price per cwt.....	\$2.10½	\$1.53	\$1.97	\$2.30	\$2.85
Boots and Shoes—pairs.....	376,274	329,355	351,152	300,484	263,508
Total value.....	\$441,069	\$402,557	\$463,436	\$414,630	\$368,633
Price per pair.....	\$1.16½	\$1.22	\$1.33	\$1.38	\$1.40
Total price.....	\$14.09	\$11.09	\$13.14	\$13.68	\$13.38

TABLE No. XLI.—Continued.

Commodities.	1875.	1874.	1873.	1872.	1871.
Bushels of Wheat.....	53,047,175	71,039,928	39,204,285	26,423,080	36,584,115
Total value.....	\$39,607,863	\$101,421,459	\$51,452,254	\$38,915,060	\$47,171,329
Price per bushel.....	\$1.12½	\$1.42	\$1.31	\$1.47	\$1.23
Barrels of Flour.....	3,951,068	4,094,094	2,562,086	2,514,535	3,463,838
Total value.....	\$23,710,074	\$29,258,094	\$19,381,664	\$17,955,684	\$21,169,593
Price per barrel.....	\$6.00	\$7.14¾	\$7.56½	\$7.14	\$6.11
Bushels of Corn.....	28,858,420	34,434,606	38,541,930	34,491,650	1,382,115
Total value.....	\$24,456,937	\$24,769,951	\$23,794,694	\$23,984,365	\$1,287,575
Price per bushel.....	\$0.79	\$0.72	\$0.61	\$0.69	\$0.92
Pounds of Pork.....	56,152,241	70,482,379	64,147,461	57,169,518	24,639,831
Total value.....	\$5,676,495	\$5,808,712	\$5,007,035	\$4,122,308	\$3,253,137
Price per pound.....	\$0.10	\$0.08	\$0.08	\$0.07 2-5	\$0.13
Pounds of Beef.....	48,243,251	36,036,537	31,605,196	26,652,094	26,727,773
Total value.....	\$4,197,956	\$2,956,676	\$2,447,481	\$1,870,820	\$1,939,778
Price per pound.....	\$0.08¾	\$0.08	\$0.07¾	\$0.07	\$0.07
Pounds of Bacon.....	250,280,950	347,403,408	395,381,787	246,208,143	71,446,854
Total value.....	\$28,611,930	\$33,383,908	\$35,022,197	\$21,126,592	\$8,126,683
Price per pound.....	\$0.11	\$0.09	\$0.08	\$0.08	\$0.11
Pounds of Raw Cotton.....	1,255,979,783	1,352,175,779	1,194,359,621	930,828,307	958,558,523
Total value.....	\$189,099,856	\$209,109,456	\$224,892,382	\$179,274,292	\$227,027,624
Price per pound.....	\$0.15	\$0.15	\$0.18	\$0.18	\$0.23¾
Pig Iron—cwt.....	315,734	192,834	56,237	40,528	27,810
Total value.....	\$489,362	\$414,728	\$140,688	\$69,331	\$50,127
Price per cwt.....	\$1.54	\$2.15	\$2.57	\$1.71	\$1.80
Railroad Iron—cwt.....	34,981	6,823	25,291	1,734	4,410
Total value.....	\$101,557	\$25,356	\$104,054	\$7,167	\$17,445
Price per cwt.....	\$2.61	\$3.71¾	\$4.11	\$4.13	\$3.97
Boots and Shoes—pairs.....	293,039	243,500	260,759	325,295	301,216
Total value.....	\$429,275	\$383,417	\$421,548	\$502,689	\$445,466
Price per pair.....	\$1.47	\$1.57	\$1.62	\$1.54	\$1.47
Total price.....	\$13.98	\$17.13	\$18.20	\$17.08	\$16.10

TABLE No. XLI.—Continued.

Commodities.	1870.	1869.	1868.	1867.	1866.
Bushels of Wheat.....	34,304,906	17,557,836	15,940,899	6,146,411	5,579,103
Total value.....	\$45,143,424	\$24,383,219	\$30,247,632	\$7,822,555	\$7,842,749
Price per bushel.....	\$1.31	\$1.38	\$1.91	\$1.27	\$1.40
Barrels of Flour.....	3,653,841	2,431,873	2,076,423	1,300,106	2,183,050
Total value.....	\$24,093,184	\$18,813,865	\$23,887,798	\$12,803,775	\$18,396,686
Price per barrel.....	\$6.59	\$7.73	\$10.05	\$9.84	\$8.42
Bushels of Corn.....	9,826,809	7,047,197	11,147,490	14,889,823	13,516,651
Total value.....	\$7,458,997	\$6,820,719	\$13,094,036	\$14,871,092	\$11,070,396
Price per bushel.....	\$0.76	\$0.96	\$1.17	\$0.99	\$0.82
Pounds of Pork.....	39,250,750	24,439,832	28,690,133	27,374,877	30,056,788
Total value.....	\$1,302,320	\$3,422,923	\$3,267,652	\$3,597,690	\$4,788,484
Price per pound.....	\$0.11	\$0.14	\$0.11	\$0.13	\$0.15
Pounds of Beef.....	43,330,217	27,299,197	22,683,531	14,182,562	19,053,800
Total value.....	\$3,825,666	\$2,430,357	\$2,696,011	\$1,727,350	\$2,766,451
Price per pound.....	\$0.08	\$0.09	\$0.12	\$0.12	\$0.14
Pounds of Bacon.....	38,968,256	49,228,165	43,659,064	25,648,226	37,588,930
Total value.....	\$6,123,113	\$7,482,060	\$5,476,998	\$3,291,176	\$6,269,796
Price per pound.....	\$0.16	\$0.15	\$0.12	\$0.13	\$0.17
Pounds of Raw Cotton.....	1,462,927,024	644,327,921	784,763,633	661,473,588	650,572,829
Total value.....	\$218,327,109	\$162,632,052	\$152,820,733	\$201,467,423	\$281,385,223
Price per pound.....	\$0.15	\$0.25	\$0.19	\$0.30	\$0.43
Pig Iron—cwt.....	70,853	1,230	5,634	12,490	22,253
Total value.....	\$111,033	\$4,112	\$10,726	\$27,021	\$62,594
Price per cwt.....	\$1.57	\$3.34	\$1.90	\$2.16	\$2.81
Railroad Iron—cwt.....	16,026	4,564	194	3,174	9,169
Total value.....	\$65,081	\$18,665	\$1,424	\$23,823	\$45,777
Price per cwt.....	\$4.06	\$4.09	\$7.34	\$7.50	\$4.99
Boots and Shoes—pairs.....	276,179	303,884	363,419	313,290	214,567
Total value.....	\$419,612	\$475,607	\$578,650	\$681,706	\$590,807
Price per pair.....	\$1.52	\$1.89	\$1.59	\$2.17	\$2.75
Total price.....	\$16.30	\$20.02	\$24.50	\$24.61	\$23.08

TABLE No. XLI.—Continued.

Commodities.	1865.	1864.	1863.	1862.	1861.
Bushels of Wheat.....	9,937,152	23,681,712	36,160,414	37,289,572	31,238,057
Total value.....	\$19,397,197	\$31,432,133	\$46,754,195	\$42,573,295	\$38,313,624
Price per bushel.....	\$1.95	\$1 33	\$1.29	\$1.13	\$1.22
Barrels of Flour.....	2,604,542	3,557,347	4,390,055	4,882,033	4,323,756
Total value.....	\$27,222,081	\$25,588,249	\$28,366,069	\$27,534,677	\$24,645,849
Price per barrel.....	\$10.45	\$7.19	\$6.40	\$5.64	\$5.70
Bushels of Corn.....	2,812,726	4,096,694	16,119,476	18,904,909	10,678,244
Total value.....	\$3,679,133	\$3,853,380	\$10,592,704	\$10,887,383	\$6,890,865
Price per bushel.....	\$1.30	\$0 81	\$0.65	\$0.55	\$0.65
Pounds of Pork.....	41,710,200	63,519,400	65,611,880	61,896,072	31,257,952
Total value.....	\$6,843,135	\$5,828,030	\$1,334,775	\$3,980,153	\$2,609,818
Price per pound.....	\$0.16	\$0.09	\$0.06	\$0.06	\$0.08 $\frac{1}{2}$
Pounds of Beef.....	27,062,000	35,666,400	31,289,128	29,264,824	27,145,792
Total value.....	\$3,304,771	\$3,023,018	\$2,185,921	\$2,017,077	\$1,675,773
Price per pound.....	\$0.12	\$0.08	\$0.07	\$0.09	\$0.06
Pounds of Bacon.....	45,990,712	110,886,446	218,243,609	.....	50,264,267
Total value.....	\$10,521,702	\$12,323,327	\$18,658,280	.....	\$4,848,839
Price per pound.....	\$0.22	\$0.11	\$0.08	.....	\$0.09 3-5
Pounds of Raw Cotton.....	6,607,166	11,993,911	.....	5,064,564	307,516,099
Total value.....	\$5,720,549	\$9,895,854	.....	\$1,180,113	\$34,051,483
Price per pound.....	\$0.86	\$0.82	.....	\$0.23	\$0.11
Pig Iron—cwt.....	11,980	29,240	19,861	27,863	14,056
Total value.....	\$32,179	\$46,618	\$29,527	\$38,412	\$25,826
Price per cwt.....	\$0 27	\$1.59	\$1.48	\$1.37	\$1.84
Railroad Iron—cwt.....	23,100	11,300	.....	.....	.....
Total value.....	\$103,077	\$28,417	.....	.....	.....
Price per cwt.....	\$4.46	\$2.51	.....	.....	.....
Boots and Shoes—pairs.....	522,308	Cases and	1,214,468	679,594	655,808
Total value.....	\$2,023,210	pairs, or	\$1,829,009	\$721,241	\$779,876
Price per pair.....	\$3.87	leather, can't	\$1.09	\$1.06	\$1.19
Total price.....	\$23.66	compare.	.....	.....	.....

TABLE No. XLII.

Statement showing the Diseases of Domestic Animals, and the Number of Deaths resulting therefrom, during the last Twelve Months, ending during the Fall of 1880, as reported by the Township Trustees at various dates during the fall of 1880.

Counties.	Cattle.		Horses and Mules.		Sheep.		Hogs.	
	Number of Townships in County.	Number of Townships showing Disease.	Name of Disease.	Number died.	Name of Disease.	Number died.	Name of Disease.	Number died.
Adams.....	12	6	Milk sickness.....	.....	Distemper.....	.....	Cholera.....	200
Allen.....	20	9	.....	.....	Yellow Water.....	.....	.....	868
Bartholomew.....	14	10	Mouth and foot disease.....	.....	.....	.....	.....	1,930
Benton.....	11	2	Blackleg.....	.....	.....	.....	.....	750
Blackford.....	4	2	.....	.....	.....	.....	.....	1,689
Boone.....	12	3	.....	.....	.....	.....	.....	1,048
Brown.....	5	1	Mouth disease.....	.....	.....	.....	.....	.....
Carroll.....	13	9	.....	3	.....	.....	.....	.....
Cass.....	14	7	.....	.....	.....	Scab.....	Cholera.....	3,497
Clark.....	12	1	.....	.....	.....	.....	.....	1,623
Clay.....	11	3	.....	.....	Distemper.....	.....	.....	.....
Clinton.....	12	9	.....	.....	.....	.....	Cholera.....	470
Crawford.....	9	2	.....	.....	.....	.....	.....	4,210
Davies.....	10	7	.....	.....	.....	.....	.....	66
Dearborn.....	14	5	.....	.....	Distemper.....	.....	.....	1,257
Decatur.....	9	4	Mouth and foot disease... 55	.....	.....	.....	.....	329
Dekalb.....	13	7	Catarrhal.....	.....	.....	.....	.....	600
Delaware.....	12	9	.....	.....	.....	.....	.....	40
Dubois.....	12	7	.....	.....	By dogs.....	17	.....	1,890
Elkhart.....	16	7	.....	.....	.....	.....	.....	2,094
Fayette.....	9	5	Mouth and foot disease... 10	.....	Distemper and epizootic.....	.....	.....	870
Floyd.....	5	2	Texas fever..... 13	.....	.....	.....	.....	1,010
Fountain.....	11	4	.....	.....	Lung fever.....	25	.....	170
Franklin.....	13	6	.....	.....	Distemper.....	.....	.....	2,532
Fulton.....	8	4	.....	.....	.....	.....	.....	2,660
Gibson.....	9	5	.....	.....	Distemper.....	.....	.....	1,149
				6				300

[illegible]

TABLE NO. XLII.—Continued.

Counties.	Cattle.		Horses and Mules.		Sheep.		Hogs.	
	Number of Townships in County.	Number of Townships showing Disease.	Name of Disease.	Number died.	Name of Disease.	Number died.	Name of Disease.	Number died.
Sullivan	9	4	.....	.....	Distemper and kidney	231	Cholera	3,857
Switzerland	6	1	.....	.....	.....	.....	.....	50
Tippecanoe	13	6	.....	.....	.....	.....	.....	1,220
Tipton	6	2	.....	.....	.....	.....	.....	400
Union	6	1	.....	.....	.....	.....	.....	.....
Vanderburgh	8	6	Mouth and foot disease	10	Distemper .....	.....	.....	1,831
Vermillion	5	2	.....	.....	.....	.....	.....	50
Vigo	12	4	Weed in bag, and itch	5	Distemper .....	.....	.....	400
Wabash	7	4	Mouth and foot	1	.....	20	.....	1,200
Warren	12	6	.....	.....	.....	By dogs .....	.....	987
Warrick	10	3	Mouth .....	.....	.....	.....	.....	528
Washington	13	6	Unknown	12	Glanders	9	.....	1,490
Wayne	15	11	.....	.....	Spinal disease	2	.....	2,479
Wells	9	3	.....	.....	Killed	5	.....	100
White	11	2	Blackleg	5	.....	.....	.....	604
Whitley	10	2	.....	.....	.....	.....	.....	550
Total	1,011	457	.....	328	.....	981	.....	119,647

NOTE.—It is too much the practice of State statisticians to ignore facts that would appear to the disadvantage of the State to people outside. American cattle have, to some extent, been under par in England and Scotland, because of a fear of the "foot and mouth disease," "black tongue," "black leg," etc. This inquiry was made in order to ascertain the real truth about this alleged truth. While we should be glad to show less than we have found, or none, we feel it a duty to the greatest number to publish the facts as we have gathered them, though it may, for a time, call unfriendly commercial attention to Indiana cattle and hogs.

There are 1,011 townships in the State, and of these 731 reported to the Bureau, and of this number only 457 reported diseases of any kind. If all the townships in the State had reported at the same rate, the proportional number of deaths of cattle would be 454, out of a total of 973,143, or one in 2,143½. Of horses, the proportion of deaths would be 1,847, or one in 373½. Of sheep, the proportional number of deaths for the whole State would be 2,309 out of a total of 1,538,860, or one in 666½, and of hogs, the proportional death rate would be 165,476 in a total of 4,359,005, or one in 26⅓.

None of these diseases are of a virulent type, but wholly caused by environment.

The State should provide for a competent commission to investigate these and similar diseases, and, if possible, discover their cause and cure. Individuals, who, as a general rule, are most interested, are not competent to prosecute such investigations; besides, they can not well spare from the business they do understand the time and attention it would require. If the State would undertake this work, the farmer would be spared the expense, not to say injury, of many bogus remedies.

TABLE NO. XLIII.

Recapitulation of the Number and Amount of Business of Dealers, as shown in the Report of 1879.

Classification of Dealers.	Number of Establishments.	Average Value of Stock or Inventory.	Annual Purchases.	Annual Sales.	Employees.		Total.	Assets.	Other Annual Expenses.	Per cent. of Profit Annually on Stock.
					Males.	Females.				
Agricultural Implements.....	456	\$1,021,340	\$4,544,863	\$4,953,490	478	28	506	\$291,861	\$176,659	.....
Books and Stationery.....	332	732,150	1,782,035	2,484,917	349	296	645	224,072	131,787	51.49
Books and Shoes.....	880	1,610,900	7,329,696	11,483,537	964	18	982	474,019	467,161	133.05
Clothing.....	517	2,435,368	6,331,951	10,179,996	768	109	877	435,132	391,606	124.47
Coal and Wood.....	234	596,923	3,197,897	4,118,393	1,124	1	1,125	471,287	176,094	67.54
Drugs.....	1,193	3,283,763	6,483,705	8,741,174	1,039	39	1,078	485,553	476,657	39.74
Dry Goods.....	1,452	7,863,092	25,084,513	39,678,261	2,231	363	2,594	1,064,790	845,755	37.03
Furniture.....	434	958,196	2,250,039	3,153,191	545	26	571	230,404	195,961	33.80
General Merchandise.....	1,749	5,049,341	15,047,036	18,278,614	1,882	133	2,015	663,165	504,934	40.86
Grain Dealers.....	635	4,904,800	75,878,803	87,209,123	912	10	922	392,599	1,569,868	190.99
Groceries and Provisioning.....	2,365	6,176,965	27,179,171	33,998,083	2,548	80	2,628	1,061,711	880,087	93.89
.....	521	2,671,167	6,852,597	8,951,082	785	23	809	401,200	387,320	47.88
.....	344	846,940	1,810,133	1,770,334	220	6	226	121,652	122,705	37.33
.....	1,798	1,039,469	3,683,305	6,751,751	1,110	28	1,138	729,879	738,018	158.68
.....	231	82,506	336,624	530,613	64	8	66	20,757	45,079	138.84
Live Stock.....	491	965,486	1,261,687	2,149,843	868	4	872	134,770	277,091	50.89
Lumber.....	1,232	3,237,933	20,797,667	23,213,713	428	1	429	122,598	799,769	46.12
Millinery.....	497	2,534,389	8,905,898	10,791,428	846	3	851	367,734	354,814	46.12
Saddles and Harness.....	932	713,773	2,437,824	3,245,693	167	753	920	391,861	175,559	49.07
Tinware and Stores.....	567	677,467	1,512,937	3,078,070	543	14	557	227,557	115,479	37.07
Tobaccoists.....	472	865,194	2,531,813	3,564,311	502	6	508	248,678	164,874	71.26
Toys and Notions.....	343	431,566	1,929,100	2,858,447	396	42	438	132,731	143,417	106.34
Miscellaneous.....	225	974,675	2,065,039	2,930,410	915	94	1,009	182,978	175,834	63.34
.....	1,221	3,264,854	12,608,082	17,671,464	2,483	458	2,941	1,038,438	902,127	94.30
Grand totals.....	19,009	\$51,371,089	\$341,120,264	\$300,328,255	20,908	1,542	22,450	\$9,779,298	10,228,055	76.44

For Note to this table see next page.

NOTE —This table is the one submitted in the report of 1879, with the addition of the per cent. profit on the stock engaged or invested in the trade. The table is a recapitulation of the estimates for the whole State. These estimates are made on the basis of those townships giving full answers to the questions asked. It has been assumed that those giving only partial answers would, if they had given full answers, show about the same ratio of purchases, sales, wages, and other expenses to stock as those giving full answers. In some lines the number giving full answers were not nearly so numerous as in some others. This is a fair showing of the several lines of trade, according to the questions answered. Some of them seem to yield improbable profits, but they are as well attested as any of the rest. The answers from which this table is made cover most of the year 1878, probably the hardest year on business since 1837 to 1841.

TABLE No. XLIV.

Recapitulation of the Estimated Number and Extent of the Business of Manufacturers, as shown in the Report of 1879.

Manufactures.	Number of Establishments.	Capital Invested.	Value of Raw Material Used.	Value of Manufactured Product.	Number of Employees.	Annual Wages Paid, including Superintendence.	Other Expenses, including Taxes, Insurance, Repairs, etc.	Percent of Profit Capital Annually on
Agricultural Implements	124	\$2,201,246	\$1,472,035	\$3,321,663	1,294	\$1,090,762	\$44,465	32.88
Barrel Factories	50	39,560	92,480	339,085	264	80,256	20,736	252.44
Blacksmithing	2,726	1,088,792	1,457,457	3,993,860	1,716	685,368	273,196	144.89
Boots and Shoes	1,183	475,420	949,978	1,912,800	1,622	500,603	111,826	173.87
Brewers	63	1,457,396	791,274	1,421,673	1,336	911,567	258,821	11.08
Brick (Common)	406	444,193	162,741	995,310	1,928	349,874	109,086	84.69
Brick (Fire)	27	23,400	4,186	70,200	57	24,800	1,638	169.12
Carrriages	270	920,361	397,362	1,707,270	1,111	453,055	94,837	26.45
Cement	11	187,000	46,750	194,460	106	16,153	39,083	49.46
Cigars	212	283,620	439,611	969,477	656	230,429	39,510	84.69
Coal Mining	274	6,430,500	4,956,536	25,046,890	2,897	2,534,583	1,466,156	251.57
Coffins	233	1,186,808	534,062	949,444	389	184,418	63,798	14.08
Coopering	646	943,160	2,093,815	3,725,482	1,963	632,186	50,462	100.61
Cotton Mills	6	1,125,000	1,383,780	2,113,750	591	175,164	50,625	44.81
Dairies	391	368,369	592,466	855,838	263	109,851	36,873	31.00
Distilleries	25	482,612	1,021,004	2,547,516	215	94,629	87,361	276.77
Drain Tiles	297	456,489	98,305	683,720	948	143,603	51,036	73.55
Flouring Mills	984	8,317,604	21,686,770	36,682,491	1,740	861,491	856,050	42.56
Foundries	71	2,804,600	8,309,310	5,883,860	2,144	932,232	206,936	68.66
Furniture	288	8,868,416	1,779,471	4,177,899	2,760	961,750	225,500	30.79
Gas Works	17	2,279,700	191,728	408,665	296	189,760	56,061	.....
Harness and Saddles	517	604,373	940,953	1,776,818	717	286,800	79,004	74.47
Marble Works	176	281,525	363,811	605,295	367	153,667	37,044	82.19
Machinists	61	9,926,414	1,869,141	3,832,896	1,540	729,760	232,848	41.72
Millinery	242	591,296	630,766	1,572,608	868	361,863	86,725	85.29
Paints	275	145,166	81,873	377,419	160	54,720	54,436	198.89
Shoe and Leather Goods	936	2,630,744	3,586,167	6,919,174	1,774	778,578	176,260	65.06
Saw Mills	65	56,750	34,766	180,602	1,111	12,163	13,620	156.70
Saw Pipes	1,239	5,090,744	5,668,084	11,868,866	4,504	1,629,674	566,637	79.80
Woolen Mills	6	91,000	51,030	97,040	33	12,490	11,340	106.66

TABLE No. XLIV.—Continued.

Manufactures.	Number of Establishments.	Capital Invested.	Value of Raw Material Used.	Value of Manufactured Product.	Number of Employees.	Annual Wages Paid, including Superintendence.	Other Expenses, including Taxes, Insurance, Repairs, etc.	Percent of Profit Annually on Capital.
Stave Factories.....	163	\$1,079,120	\$2,827,294	\$4,832,304	1,522	\$380,139	\$55,345	117.65
Stone Quarrying.....	445	1,144,767	289,626	1,483,618	892	105,711	66,396	89.26
Wagon Factories.....	368	719,472	777,742	1,213,749	644	242,936	64,752	17.83
Miscellaneous.....	1,742	26,443,560	37,020,984	64,072,746	22,024	8,954,298	2,398,431	59.36
Total.....	14,480	\$76,341,728	\$97,342,880	\$185,050,220	57,939	\$24,195,057	\$8,014,917	72.69

NOTE.—This table is the same as that published in the report of 1879, with the addition of the profits on the capital invested in the several lines of manufactures. This table is made up of estimates based on the report of the manufacturers giving full answers to all the questions. It is assumed that if those who gave but partial, had given full answers, the ratio of the value of raw material, the value of the manufactured product, the wages and the other expenses to the capital invested would be the same as those giving full answers. Some of these show improbable profits, but it is in accordance with the answers to questions. In several of these lines it must not be forgotten that the proprietors do nearly all their own work and consequently do not have so large an amount charged to wages as some others, and consequently have, apparently, a much greater per cent. of profit on the capital employed; and notably so is blacksmithing, boot and shoemakers, coopering, photographing and potteries. In the lines requiring much capital to start and maintain each individual enterprise, as machine works, distilleries, blast furnaces, etc., the labor performed by the proprietors is an insignificant part of the whole, whereas in a cooper or blacksmith who might be the major part.

TABLE No. XLV.

Recapitulation of Totals.

Statement showing the Number and Value of the Several Items of Real and Personal Property exhibited in the foregoing tables. The value is that shown by the market reports in Indianapolis at the time of harvest of the several products, and that of Agricultural Machinery, Domestic Animals, etc., is the average judgment of dealers, farmers, and others consulted. Where acreage only has been given to the Bureau, we have estimated the product.

Description of Property.	Number or Amount.	Estimated and Market Value.
ANNUAL CROPS OR PRODUCT.		
Bushels of Wheat.....	47,130,684	\$43,831,536
Bushels of Corn.....	87,335,014	84,934,006
Bushels of Oats.....	15,568,430	4,669,029
Bushels of Rye.....	217,192	162,891
Bushels of Barley.....	687,911	584,724
Bushels of Clover Seed.....	618,070	2,626,798
Tons of Hay.....	1,221,164	15,875,132
Bushels of Castor Beans.....	14,805	11,844
Bushels of Navy or Corn Beans.....	124,938	218,642
Bushels of Onions.....	68,100	61,290
Bushels of Buckwheat.....	521,760	260,880
Bushels of Irish Potatoes.....	4,148,014	2,488,808
Bushels of Sweet Potatoes.....	406,006	406,006
Bushels of Apples.....	35,992,180	? 32,579,743
Bushels of Peaches.....	4,244,445	5,332,627
Bushels of Pears.....	443,692	1,331,076
Bushels of Plums.....	15,450	46,350
Bushels of Cherries.....	190,547	381,094
Bushels of Siberian Crabs.....	50,190	50,190
Bushels of Quinces.....	11,203	33,609
Bushels of Cranberries.....	34,770	104,310
Gallons of Strawberries.....	392,480	156,992
Gallons of Black, Rasp and other Tame Berries.....	868,640	347,456
Gallons of Milk.....	122,157,613	18,323,642
Pounds of Butter.....	28,617,086	6,222,618
Pounds of Honey.....	1,197,627	215,573
Pounds of Wool.....	3,893,715	1,168,115
Pounds of Feathers.....	518,787	297,515
Dozens of Eggs.....	18,531,524	2,501,756
Melons.....	9,472,500	1,184,062
Pounds of Tobacco.....	6,662,204	452,976
Heads of Cabbage.....	2,470,500	123,525
Pounds of Grapes.....	6,729,265	336,463
Gallons of Cider.....	4,214,956	632,243
Gallons of Vinegar.....	668,563	93,597
Gallons of Wine.....	65,357	66,857
Gallons of Sorghum Molasses.....	1,588,232	555,881
Gallons of Maple Molasses.....	224,531	168,898
Pounds of Maple Sugar.....	250,754	25,075
Total.....	.....	\$177,771,832

TABLE No. XLV.—Continued.

Description of Property.	Number or Amount.	Estimated and Market Value.
DOMESTIC ANIMALS.		
<i>Horses.</i>		
One year old and under.....	48,539	\$1,175,553
One to two years old.....	38,616	1,621,872
Two to three years old.....	30,924	1,762,668
Three to four years old.....	30,513	2,196,936
Four years old and over.....	359,453	32,350,770
Total.....		\$39,107,799
<i>Mules.</i>		
One year old and under.....	5,996	\$209,860
One to two years old.....	4,672	256,960
Two to three years old.....	3,906	300,762
Three to four years old.....	5,124	512,400
Four years old and over.....	38,117	4,807,221
Total.....		\$5,687,203
<i>Cattle.</i>		
One year old and under.....	318,758	\$3,825,096
One to two years old.....	146,910	2,203,650
Two to three years old.....	155,894	3,185,677
Three years old and over.....	352,081	17,604,050
Total.....		\$26,818,473
<i>Hogs.</i>		
Fatted Hogs.....	1,993,943	\$22,431,859
Stock Hogs.....	2,365,062	6,622,174
Total.....		\$29,054,033
<i>Sheep.</i>		
Grown Sheep.....	1,013,032	\$3,039,096
Lambs.....	525,828	1,051,656
Total.....		\$4,090,752
<i>Breeding Animals.</i>		
Stallions.....	4,522	\$2,034,800
Jacks.....	1,235	308,750
Bulls.....	15,637	1,438,604
Rams.....	17,017	187,187
Boars.....	21,117	253,404
Jennets.....	3,099	46,485
Sows.....	293,703	4,405,545
Cows.....	394,832	13,819,120
Total.....		\$22,493,995
<i>Poultry.</i>		
Dozens of Chickens.....	663,849	\$1,825,585
Dozens of Turkeys.....	58,713	528,417
Dozens of Geese.....	48,848	233,070
Dozens of Ducks.....	21,835	49,129
Dozens of Guineas.....	4,748	5,698
Dozens of Pea-fowls.....	26,686	160,116
Total.....		\$2,802,015
Stands of Bees.....	146,327	\$438,931
Total.....		\$438,931

TABLE No. XLV.—Continued.

Description of Property.	Number or Amount.	Estimated and Market Value.
AGRICULTURAL IMPLEMENTS.		
Common Breaking Plows.....(Present cost price)	198,834	\$1,982,510
Riding Breaking Plows.....	8,718	409,746
One-horse "Barshear" Plows.....	46,733	369,191
Single Shovel Plows.....	99,419	343,134
Double Shovel Plows.....	141,303	593,473
Wheel Cultivators.....	67,621	1,555,283
Two-horse Harrows.....	125,737	1,332,812
One-horse Harrow Cultivators.....	14,812	92,575
Wheat, or Seed Drills.....	41,574	2,161,848
Broadcast Seed Sowers.....	6,676	40,056
Drop Rake Reapers.....	14,678	1,952,174
Reapers, Self-binding.....	3,013	801,458
Mowers.....	14,827	1,200,987
Reapers and Mowers Combined.....	35,494	4,888,172
Horse Hay Bakes.....	25,185	589,329
Hay Loaders, Lifters and Stackers.....	6,781	508,575
Fanning Mills.....	35,801	787,622
Steam Thrashers.....	2,519	3,551,790
Horse Power Thrashers.....	2,178	1,874,318
Total		\$24,535,053
FENCES.		
Rods of Rail, or Worm Fence.....(Present cost price)	106,858,743	106,858,743
Rods of Post and Rail Fence.....	1,873,702	2,154,757
Rods of Plank Fence.....	5,445,850	6,262,727
Rods of Stone Fence.....	142,708	285,416
Rods of Willow Hedge Fence.....	77,431	30,972
Rods of Osage Hedge Fence.....	1,433,538	1,290,184
Rods of Wire Fence.....	144,362	122,708
Rods of Barbed Wire Fence.....	193,065	144,799
Total		\$117,150,306
FRUIT TREES.		
Apple Trees, bearing.....	6,672,096	80,065,152
Apple Trees, young, non-bearing.....	3,073,474	3,841,843
Peach Trees, bearing.....	1,910,601	3,821,202
Peach Trees, young, non-bearing.....	788,134	788,134
Pear Trees, bearing.....	221,846	443,692
Pear Trees, young, non-bearing.....	280,579	230,579
Plum Trees, bearing.....	123,594	247,188
Plum Trees, young, non-bearing.....	129,293	129,293
Quince Trees, bearing.....	44,812	89,624
Quince Trees, young, non-bearing.....	68,740	68,740
Cherry Trees, bearing.....	762,188	1,524,376
Cherry Trees, young, non-bearing.....	546,255	546,255
Siberian Crab Trees, bearing.....	50,190	100,380
Siberian Crab Trees, young, non-bearing.....	52,791	52,791
Grape Vines, bearing.....	1,345,853	2,018,779
Grape Vines, young, non-bearing.....	566,848	425,136
Total		\$94,393,164
RAILROADS.		
Main Track.....		29,735,960
Side Track.....		1,932,182
Rolling Stock.....		6,719,973
Canada Southern Right of Way.....		54,846
Total.....		\$38,442,941
First cost of Railroads.....		192,066,196

TABLE No. XLV.—Continued.

Description of Property.	Number or Amount.	Estimated and Market Value.
DOMESTIC ANIMALS.		
<i>Horses.</i>		
One year old and under.....	48,539	\$1,175,553
One to two years old.....	88,616	1,621,872
Two to three years old.....	30,924	1,762,668
Three to four years old.....	30,513	2,196,936
Four years old and over.....	359,453	32,360,770
Total.....		\$39,107,799
<i>Mules.</i>		
One year old and under.....	5,996	\$209,860
One to two years old.....	4,672	256,960
Two to three years old.....	8,906	300,762
Three to four years old.....	5,124	512,400
Four years old and over.....	38,117	4,307,221
Total.....		\$1,587,203
<i>Cattle.</i>		
One year old and under.....	818,758	\$3,825,096
One to two years old.....	146,910	2,203,650
Two to three years old.....	155,394	3,185,677
Three years old and over.....	362,081	17,604,050
Total.....		\$26,818,473
<i>Hogs.</i>		
Fatted Hogs.....	1,993,943	\$22,431,859
Stock Hogs.....	2,365,062	6,622,174
Total.....		\$29,054,033
<i>Sheep.</i>		
Grown Sheep.....	1,013,032	\$3,039,096
Lambs.....	825,828	1,051,656
Total.....		\$4,090,752
<i>Breeding Animals.</i>		
Stallions.....	4,522	\$2,084,800
Jacks.....	1,236	308,750
Bulls.....	15,637	1,438,604
Rams.....	17,017	187,187
Boars.....	21,117	258,404
Jennets.....	3,099	46,485
Sows.....	293,703	4,405,545
Cows.....	394,832	13,819,120
Total.....		\$22,493,995
<i>Poultry.</i>		
Dozens of Chickens.....	663,849	\$1,825,585
Dozens of Turkeys.....	58,713	528,417
Dozens of Geese.....	48,848	233,070
Dozens of Ducks.....	21,835	49,129
Dozens of Guineas.....	4,748	5,698
Dozens of Pea-fowls.....	26,686	160,116
Total.....		\$2,802,015
Stands of Bees.....	146,327	\$438,991
Total.....		\$438,981

TABLE No. XLV.—Continued.

Description of Property.	Number or Amount.	Estimated and Market Value.
AGRICULTURAL IMPLEMENTS.		
Common Breaking Plows.....(Present cost price)	198,834	\$1,982,510
Riding Breaking Plows.....	8,718	409,746
One-horse "Barshear" Plows.....	46,733	369,191
Single Shovel Plows.....	99,459	343,134
Double Shovel Plows.....	141,303	593,473
Wheel Cultivators.....	67,621	1,555,283
Two-horse Harrows.....	125,737	1,332,812
One-horse Harrow Cultivators.....	14,812	92,575
Wheat, or Seed Drills.....	41,574	2,161,848
Broadcast Seed Sowers.....	6,676	40,056
Drop Rake Reapers.....	14,678	1,952,174
Reapers, Self-binding.....	3,013	801,458
Mowers.....	14,827	1,200,987
Reapers and Mowers Combined.....	35,494	4,888,172
Horse Hay Rakes.....	25,185	589,329
Hay Loaders, Lifters and Stackers.....	6,781	508,575
Fanning Mills.....	35,801	787,622
Steam Thrashers.....	2,519	3,551,790
Horse Power Thrashers.....	2,178	1,374,318
Total		\$24,535,053
FENCES.		
Rods of Rail, or Worm Fence.....(Present cost price)	106,858,743	106,858,743
Rods of Post and Rail Fence.....	1,873,702	2,154,757
Rods of Plank Fence.....	5,445,850	6,262,727
Rods of Stone Fence.....	142,708	285,416
Rods of Willow Hedge Fence.....	77,431	30,972
Rods of Osage Hedge Fence.....	1,433,538	1,290,184
Rods of Wire Fence.....	144,362	122,708
Rods of Barbed Wire Fence.....	193,065	144,799
Total		\$117,150,306
FRUIT TREES.		
Apple Trees, bearing.....	6,672,096	80,065,152
Apple Trees, young, non-bearing.....	3,073,474	3,841,843
Peach Trees, bearing.....	1,910,601	3,831,202
Peach Trees, young, non-bearing.....	788,134	788,134
Pear Trees, bearing.....	221,846	443,692
Pear Trees, young, non-bearing.....	230,579	230,579
Plum Trees, bearing.....	123,594	247,188
Plum Trees, young, non-bearing.....	129,293	129,293
Quince Trees, bearing.....	44,812	89,624
Quince Trees, young, non-bearing.....	68,740	68,740
Cherry Trees, bearing.....	762,188	1,524,376
Cherry Trees, young, non-bearing.....	546,255	546,255
Siberian Crab Trees, bearing.....	50,190	100,380
Siberian Crab Trees, young, non-bearing.....	52,791	52,791
Grape Vines, bearing.....	1,345,853	2,018,779
Grape Vines, young, non-bearing.....	566,848	425,136
Total		\$94,393,164
RAILROADS.		
Main Track.....		29,735,960
Side Track.....		1,932,162
Rolling Stock.....		6,719,973
Canada Southern Right of Way.....		54,846
Total		\$38,442,941
First cost of Railroads.....		192,066,196

TABLE No. XLV.—Continued.

Description of Property.	Number or Amount.	Estimated and Market Value.
Value of Lands.....	\$326,810,513
Value of Improvements.....	62,721,296
Value of Lots.....	72,056,594
Value of Improvements.....	71,873,971
Total.....	\$533,462,374
First cost of Turnpike.....	\$3,672,454
Private and Corporate Educational Institutions.....	2,036,490

DEALERS IN 1879.

Number in the State, 19,009; value of average stock, \$11,271,059; annual purchases, \$241,120, - 284; annual sales, \$300,323,256; number of male employes, 20,908; number of female employes, 2,542; total employes, 23,450; annual wages paid, \$9,779,292; all other annual expenses, \$10,228,055.

MANUFACTURERS IN 1879.

Number in the State, 14,480; value of capital employed, \$76,341,728; value of raw material used, \$97,342,880; value of manufactured product, \$185,050,220; number of employes, 57,939; annual wages paid, \$24,195,057; all other annual expenses, \$8,014,917.

There are other important business and industries which can not be shown in this resume, as banking, the work of the professions, etc.

OBSERVATIONS ON SOME OF THE PRECEDING TABLES.

TABLE No. XVII.

CASTOR BEANS—The Bureau have no personal knowledge of the amount and value of this product, and the estimates concerning it are the result of information obtained by consulting persons supposed to know.

The same is true of the cranberry product.

The area occupied as dooryard, barnyard and garden is equal to that of an average county, or a little over one per cent. of the total area and a still greater per cent. of the arable land, and will, of course, increase with the increase of population and the multiplication of houses and barns. One and one-eighth per cent. of the lands are also taken up for roads of all kinds (see Road Statistics).

There are 291,278 acres reported as occupied in orchard trees in the State (page 141), and there are 14,674,593 orchard trees of various kinds reported (not including grape vines); see page 151. This allows a little more than three square rods of ground to each tree. This, including the places allowed for trees that have died out, indicates that both the acreage and number of trees have been quite correctly reported.

TABLE No. XVIII.

The total gallons of milk, 122,157,613, was taken from 394,832 cows (see pages 166-7), which is 309.4 gallons per year, or eighty-five hundredths of a gallon per day to each cow. This is only seventeen hundredths of a gallon, or a little over $1\frac{1}{2}$ pints per day, to each person in the State. This may be all the milk that is produced in this State, but the same cost, with but little more care and labor, ought to produce more than twice that amount.

The pounds of butter reported is 28,617,036, or one pound to every $4\frac{1}{4}$ gallons of milk reported, and only 14.05 pounds to each person per year, or $\frac{3}{8}$ of an ounce per day. Any one who has ever been one of a party of railroad surveyors, and has eaten at a farm-house every two miles, and drank his two glasses of milk and used a half ounce of butter to each of four biscuit at each meal, will conclude that these returns are largely understated, and he will be right; else a large portion of the people which we do not suspect go entirely without these at once necessities and luxuries of life.

The number of stands of bees for the State is 146,327, and the number of pounds of honey taken 1,197,627, or 8.18 pounds from each stand.

The number of grown sheep reported on page 163 is 1,013,032, and the number of pounds of wool reported clipped in 1879 on page 143 (and from substantially the same sheep), is 3,893,715 pounds. This is an average of 3.84 pounds to each sheep.

TABLE No. XX.

The value of the apple crop in Table XX, pages 147-8, is too great for this year. It was given the bureau by the dealers at a time when it seemed probable that such a price would prevail, and the table was made then and given to the printer in its order, without revision in the light of later prices, both from inadvertence and lack of time.

TABLE No. XXI.

FRUIT TREES.—This table is believed to be pretty accurate, at least enough so to fairly compare one county with another. By this table it will be seen that Allen County very decidedly leads in apple trees, pear trees, cherry trees and Siberian crab trees. Jefferson and Harrison counties lead in quince trees, Dearborn county leads in grape vines and plum trees. Fruit culture in Indiana has scarcely made more than a beginning of its ultimate possibilities.

The money value of a fruit tree is not well settled among husbandmen. The bureau has arrived at the value thus: Experts say that an average apple tree will bear eight bushels in a favorable season, and six bushels in an average year. The apples can generally be sold at the tree for twenty-five cents a bushel, or \$1.50. This is ten per cent. interest on \$15.

Allow for pruning, resetting, taxes, etc., \$3, leaving the money value of an average apple tree at \$12. A young tree just set costs say 15 cents. When they begin to bear they will not average over one bushel. This is the interest at ten per cent. of \$2.50. The average value of all non-bearing trees would then be about \$1.25 each.

PEACH TREES—When they bear, will average over the State about three bushels. As they bear well, when at all, the price at the tree will probably be but little above that of apples—33 cents per bushel, or \$1 per tree once in five years. This is the interest of \$10 at ten per cent. An apple tree does not reach its full bearing capacity at much under fifteen years of age, whereas a peach tree reaches it at about five. We do not, therefore, make the difference between the value of bearing and non-bearing peach trees that we do of apples. We put the half-grown (average) peach tree at one dollar. The money value of other trees and vines is estimated in the same manner.

TABLE No. XXII.

AGRICULTURAL IMPLEMENTS.—In this table there are errors which are believed to be due more to the assessors than to the farmers. The number of threshers reported from some counties will provoke a smile, indicated thus “?”. The bureau took pains at first to hunt down several of these, and found it a difficult task, but corrected some of them. In one case the Auditor had to re-add several townships, and found that one assessor, in adding and carrying forward from page to page, had got the fanning mills of several pages added in with threshers. But some townships reported none. To thresh the crop of 1880, those reported would each have to thresh 10,034 bushels of wheat, 3,314 bushels of oats, 46 bushels of rye, and 147 bushels of barley, or 13,541 bushels as a total. The threshing capacity of an ordinary thresher is about 300 bushels per day, or 13,500 bushels for a season of about forty-five days.

The bureau is unable to say what degree of credit for accuracy should be given to this table as a whole. It is probably quite as good as any other inquiry which is made for the first time. Many people, including the officers, will not carefully report statistics which they do not see the importance of, and some, to manifest their disapproval, will purposely give untruthful answers.

As the inquiry is repeated from year to year, the people get accustomed to it, and interested in the result, and make fuller and better reports.

TABLES No. XXIII AND XLV.

FENCES.—The total length of fences in Indiana, which is under, rather than over-stated, would, if extended, reach over fourteen and one-half times around the earth. All this vast length of fence is required (or supposed to be) to protect the crops from the intrusion of less than seven and one-half millions of horses, mules, cattle, sheep and hogs. The rail fence of Allen county alone would reach nearly nine times around the State. If all this fence should be suddenly destroyed, no one would ever seriously think of rebuilding it, but would set about discovering a cheap substitute.

The “value” of fences in the foregoing table is the average of estimates made by a good number of persons supposed to know, who were consulted by the bureau. The value is the cost at present rates. On osage hedge, all the raisers we could reach were consulted. Of those consulted the Dayton (Ohio) Hedge Company seemed to be the best informed, and their opinion as to the cost of an average hedge was taken. Of course the cost does not represent their fine, firm, durable and even ornamental hedge, but the good, bad and “indifferent,” as we see it on the farms. No one was willing to give a cost of willow hedge. We put it at half that of the average osage.

In the first biennial report of the State Board of Agriculture of Kansas for the years 1877-’8, the statistics of fences for the State are as follows:

	Stone Fence.	Rail Fence.	Board Fence.	Wire Fence.	Hedge.	Total.
Number of rods	1,007,196	6,674,761	2,574,938	1,684,134	11,619,915	23,560,944
Value.....	\$1,715,553	\$8,943,111	\$3,603,301	\$1,212,702	\$6,583,877	\$22,058,544

The value of fences is given for Pennsylvania at about fifty-six million dollars.

TABLE No. XXVI.

CATTLE, HOGS AND SHEEP.—There is apparently an inconsistent ratio shown between the cattle of different ages. Those one year old and under are almost 30 per cent. of the whole number of cattle, while the same aged horses are only 8.65 per cent., and mules 10.37 per cent. of the whole. Number of cattle 1 to 2 years old are 13.79 per cent. of the whole, while horses of the same age are 7.68 per cent. and mules 8.08 per cent. of the whole. Cattle 3 to 3 years old are 14.59 per cent. of the whole, while horses of the same age are only 6.15 per cent. and mules 6.76 per cent. of the whole. As the number of cattle between 3 and 4 years of age was not taken, they can not be compared any farther with horses and mules. It must be borne in mind that grown cattle are largely consumed for beef, which would make the young bear a higher ratio to the grown than in the case of horses and mules.

The ratio to the whole of those one year old and under seems to be much too great, being nearly four times that of horses and nearly three times that of mules, but the slaughter-house again accounts largely for this. But why the number 2 to 3 years old should exceed that of those 1 to 2 years old is not quite so plain. It is possible that the sales to and purchases from other States would produce such a result, but it is more probably a miscount. Cattle being much more numerous than horses and mules and bought and sold more, are not individually so closely observed and remembered. Scarcely a farmer but knows every horse by name and age, and often by pedigree.

MISCELLANEOUS STATISTICS.

(Taken from the report of the Superintendent of Public Instruction.)

TILE DRAINAGE FOR PROFIT AND HEALTH.

BY HON. J. J. W. BILLINGSLEY,
Editor of Drainage Journal, Indianapolis, Ind.

There are considerable areas of swamp lands in the northwestern and other parts of this State, with an estimated value of fourteen millions of dollars. The value attached to these lands is largely prospective, contingent that at some future date they may be made more available by drainage. A large proportion was once small lakes—the water level having been lowered, or the deposit of decayed vegetable matter in the centuries past has filled up the basins above the water level a few inches, or feet, at most. At certain seasons of the year, some of these lands are partly covered, or fully saturated to the surface, with water. Growing upon such lands are wild grasses, willows, buttonwood, etc. The timber lands grow elm, soft maple, water oak, etc.

When sufficiently drained, these lands are very productive, and when fully subdued, easily tilled, being adapted to the growth of corn, oats, and tame grasses. After being cultivated a few years they become fine wheat lands. They are especially adapted to the growth of vegetables—the soil and climate being favorable.

In their present condition, they are of little service. Through the summer months the wild grass furnishes pasturage for stock, and a cutting of hay in some localities, which is used in part for stock, making an inferior food, and is also used to some extent as bedding for stock, and in packing goods, but at best is of no great value.

These lands are situated convenient to market, with the best of railroad facilities. At present they are only sparsely settled, but if drained, would soon become thickly populated, being within a few hours' ride of Indianapolis, Chicago, and other large cities.

They need a system of drainage so broad as to embrace the whole area, which should be provided by the State, so far as the open ditches are needful, to enable the owners of land to get outlets for tile drainage. It is the only way by which these lands can be made available for agricultural purposes. When drained and brought into cultivation the increased value would exceed seventy millions of dollars, which would be added to our tax

list to bear the expenses of government. When brought into a state of high cultivation the annual productions would aggregate more than twenty millions of dollars. They would, when redeemed from the surplus of water, become the homes of thousands of prosperous farmers, who would make this broad expanse of level land teem with millions of wealth. But the realization of all this depends upon their drainage. The importance of providing for this want should command the consideration of political economists in the State. Such a wise and timely provision would inaugurate a better era, a day of healthy prosperity. We have also in this State more than two million acres, out of twenty-two million acres, of what are known as

WET LANDS

in partial cultivation. They are rich—some of them very rich—but in a large part unprofitable if not drained, for the reason that they are wholly subject to the uncertainties of the season. In the spring they are wet and cold; if a rainy summer follows, it is hardly possible to cultivate them; or if a drouth follows the rainy season, they are seriously affected. The drainage of this land would quite double its value for agricultural purposes, adding to the wealth of the State at least twenty-five millions of dollars in the value of its real estate; besides the increased annual productions would aggregate millions of dollars more than at present.

If the foregoing statements be thought extravagant, take the present production of these lands as a basis, and then estimate what they would be if brought into a state of good cultivation, and the truth of our statements will most fully appear. It remains to be said of these lands, that no amount of expense will adapt them to profitable agricultural uses *without* drainage.

In addition to the lands before referred to, there are seven million acres reported in cultivation, including pasture lands enclosed. These have from a gentle to an abrupt surface drainage. Here and there are depressions and draws which are *unfit* for cultivation without under-drainage. Of the whole area of several million acres, a small part, not including the bottom lands, has a natural under-drainage through underlying stratas of sand or gravel. All lands with retentive clay subsoil and no natural under-drainage, in this State, will be greatly benefited if tile-drained to the depth of three or four feet, whether level or rolling. The under-drainage of the latter will largely prevent the surface wash, which bears away the best of the soil. Besides, the rainfall properly belongs to the land on which it falls, and will greatly benefit the soil if it can be made to pass through it to the depth of three or four feet and be removed through drains below. In addition to the saving of the surface wash, the elements of fertility borrowed from the atmosphere will be

taken up and held by the soil for plant food. The water from heavy rainfalls rushing down over rolling lands which are in cultivation, very soon impoverishes them. Hence we find the rolling land in our fields the poorest where no attention has been given to the foregoing facts.

The drainage of these lands would effectually dispose of the spring water which flows out in some places, and at other points appears only in sufficient quantity to keep the surface too moist for profitable cultivation. With those who have not investigated the facts, it is the generally received opinion that rolling lands do not need underdrainage, yet the enduring fact still remains that they are essentially benefited, for the important reasons above given and others that will be named in the general summary of benefits before we conclude this paper; and more, the day is not far distant when the intelligent, enterprising farmer will consider the demand for the under-drainage of them imperative, in order to preserve and increase their fertility. By this progressive treatment the annual products of such lands would be increased from fifty to one hundred per cent.

Treating the subject in its general aspect, there are few farms or little farming land in the State that does not need more or less tile drainage, including much of our bottom land.

The under-drainage of pasture lands is an important feature in this subject. The same causes that tend to promote the growth, increase the quantity, and improve the quality of the products of the cereals, are also beneficial to tame grasses. The superiority of grass grown upon tile-drained land for hay and grazing purposes is a well-established fact, known to every intelligent farmer in the State.

DRAINAGE FOR HEALTH.

While it is true that the health of our State is as good as that of surrounding States, yet it is equally true that the health is greatly benefited by drainage. Malarial diseases (chills and fevers, neuralgia, etc.) are accepted as necessary evils attending a residence upon rich and fertile land. These diseases often develop into pneumonia and lung troubles—not unfrequently into chronic diseases. True, they are confined to particular localities, but it will be found in almost every instance that there is a want of drainage. The health of our homes is a matter of paramount importance in the enjoyment of life and the development of that vigor of body and mind essential to happiness and prosperity.

The first in importance is the drainage of the ground about our homes, not into the well, but from it. The well not unfrequently, however, is the only drainage afforded to the ground about the house. The well from which

the daily supply of water for domestic use is drawn is made the receptacle of slops, decayed vegetable matter, filterings from a neighboring privy, of all that is foul and sickening; finding its way through the soil for rods around. Some wells are supplied with surface water only. A thorough drainage of the land would dry up many wells of water. But it would be a sanitary blessing, necessitating the digging of deeper ones to a supply of purer water. The grounds about our homes, upon which our children are to play daily and our wives and daughters walk in attending to their domestic duties, should be the first to be made dry and healthy. Thin-soled shoes, damp ground, damp, cold feet, disease and death follow hard after each other. Add to the above the malarial poison rising through the hot summer months from the undrained level lands in the neighborhood, floating along in the air, taken into the lungs, poisoning the blood, and we have in all this the fruitful cause of more than half of the disease afflicting our people. Men, women and children sicken and die from the local causes before named, and mourners go about the streets charging their bereavements to the dealings of an inscrutable Providence, when justly they should charge it to inexcusable ignorance and negligence. The cause of the trouble is want of sufficient drainage. Dry the land and the trouble will cease.

The evidence that thorough drainage will remove the causes of malarial diseases is not wanting. Hundreds of instances can be cited where judicious drainage has effected a radical cure of the evil. The drainage of our lands for agricultural purposes has served to light up the way and teach us that drainage for the improvement of the soil brings a double blessing, improving the health as well. Drainage for health is drainage for profit, or drainage for profit is drainage for health. Like the twin sisters, they go hand-in-hand. The thorough drainage of all the clay soils and swamp lands of the State would not only be a source of untold millions of wealth in the increased annual products and the rapid increase of our population, but in addition it would promote the health, happiness, intelligence and prosperity of our people.

WHAT DRAINAGE DOES IN BRIEF.

1. It removes the surplus water which so greatly damages the growing crop.
2. It increases the depth of the soil, allowing the roots of plants to descend for necessary food.
3. It admits the air to the roots of growing crops, so essential to their well-being.
4. It enables the soil to absorb fertilizing substances from the air, increasing largely the supply of plant food.

5. It prevents the washing of the soil, retaining for the use of crops the decayed vegetation and nitrogenous food absorbed from the atmosphere by the surface soil.

6. It passes the rainfall through the soil, which, in its passage, gives up to the soil the ammonia and other fertilizers washed out of the air.

7. It increases the temperature of the soil by removing the surplus water quickly through the drains, which would otherwise be removed by evaporation; the latter being a cooling process.

8. It promotes the germination of seed by the increased temperature and also by supply the necessary moisture only.

9. It secures, with careful planting of the seed, a full stand.

10. It prevents the packing or running together of the soil, rendering it open, porous, and easily pulverized.

11. It prevents the freezing out of winter crops.

12. It prevents damage from long continued wet weather.

13. It also protects against drouth by allowing the roots to descend to a greater depth in the soil for necessary moisture, the soil also absorbing moisture from the air which circulates through it.

14. It insures the uniformity of crops.

15. It increases the yield from fifty to one hundred per cent.

16. It greatly improves the quality of products.

17. It improves the health of man and beast.

ADVANCE IN THE WORK.

The increased interest in farm drainage has wrought a wondrous change among some of our farmers, not only in the certainty of crops and increased production, but also in redeeming large tracts of land, before thought to be worthless. Prior to 1850 little had been done in the way of drainage. A few wooden drains had been made, the magic effect of which served to increase the interest. The wooden drains were short-lived; the demand for something more durable was imperative.

The first tile machine for manufacturing drain pipe from clay was introduced into the State about this time. It was operated by hand. Horse-power machines soon followed, then steam-power mills. It is estimated that in 1860 there were in the State 20 tile factories. Established from 1860 to 1870, 58 factories, and from 1870 to 1880, 380; estimated tile factories in operation at this date in the State, 486. Estimated capital invested in the manufacture of tile, \$700,000. Hands employed six months in the year, 2,187. Average wages per month, \$22. Estimated value of products for the year 1880, \$900,000. The basis of this estimate is from figures and facts.

collected through the Drainage Journal. A very marked advance is noted in the work in the past two years, in the improvement of machinery for manufacturing, and in kilns for burning, and also in the demand for tile and especially larger tile.

The interest has been progressive, not only in the amount of tile laid, but also in the character of the work done. Some discouragements have been in the way, in that much of the work done in years past had to be done over, for the reason that the tile used in laying the first drains were too small to serve as mains in the extension of the work. They have been taken up and their place supplied with much larger tile. The consequent demand for large tile has been so pressing that many factories have not been able to supply the calls. Many manufacturers have been compelled to increase their capacity for the making of large tile. The laying of large tile indicates an extension and thoroughness of the work in farm drainage very encouraging indeed. We also note an improvement in the depth of drains. Fifteen or twenty years ago the depth seldom exceeded two feet, and often much less—the present depth from two and a half to four feet.

Many of our progressive farmers are laying out a system of drainage which comprehends such a thoroughness of work as to embrace the entire farm. A great need of our State to-day in this direction, is a carefully prepared drainage act, upon the principle, "peaceably if we can, forcibly if we must." Our people need to be educated up to such a measure. While much is being done by private associations and individual effort, yet we need in addition the strong arm of the law to give an increased impetus to the work.

There is no better investment of capital than in judicious farm drainage. It will yield an annual dividend of from twenty-five to one hundred per cent. It is a safe investment; the dividends are certain for all the years to come; the bank never suspends, and it increases its efficiency from year to year.

Farm drainage to-day is the most important improvement in progressive agriculture; the foundation stone of success; a guarantee of individual and State prosperity. It is the only improvement that will make fully available the stores of wealth at present hid away in the rich clay subsoils and marsh lands of the State. For Emerson has truly said that "There are farms underneath our farms that we know not of, except we drain."

FLAX CULTURE IN INDIANA.

BY HON. I. D. G. NELSON,
Fort Wayne, Ind.

I submit a few thoughts on the importance of flax culture in Indiana; but not being entirely satisfied with my own experience and views, I propounded a few questions to E. W. Green, Esq., one of the most intelligent and successful farmers in Allen county. They are as follows, together with the answers and letter accompanying the same, which leaves but little further to be said by me on the subject:

1. What kind of soil is best suited to the growth of flax? When do you sow the seed, the season being favorable, and how much seed per acre?

Answer. "Clay marl, under-drained; from 25th April to 15th May, when the ground is in order; had the best success with one-half bushel per acre."

2. What is the average yield per acre?

Ans. "Lowest 8 bushels, highest 15½ bushels per acre."

3. What is the average price of seed this year, and for the past ten years?

Ans. "Lowest, \$1.25; highest, \$2.25; (poor plan to wait till spring to buy seed); spring of 1880, \$1.50."

4. How do you reap it, and do you make any use of the straw?

Ans. "With a grain reaper; make no use of the straw, except for manure."

5. Do you consider it an exhaustive crop, and do you consider it a profitable crop to grow?

Ans. "Not more exhaustive than an oat crop; profitable as a rotation crop; prefer it to oats."

6. What condition does it leave the land in, and what crop should follow?

Ans. "In good condition; a wheat crop should follow flax, and clover the wheat."

"I claim it is a better crop than oats, and I have received more from the best acre of flax than I did from the best acre of oats, and I never had a total failure of flax, but I have had of oats. Have received \$26.12½ per acre for

flax right from the machine, from a nine-acre field; never received that much from oats, and I think that a field properly prepared for flax, and flax grown upon it, leaves it in as good a condition as a summer fallow for wheat. The trouble is, the ground is not properly prepared for flax, which causes so many failures."

The cultivation of flax for its fibre, in Indiana, dates back to the earliest settlement, as a domestic industry, but has now gone entirely out of use. The culture of flax, however, for seed has been steadily on the increase for several years, until it has become one of the important industries of the State. The introduction of grain reapers with smooth knives and vibrating threshers to handle the crop has given an impetus to its cultivation. As mills are established for the manufacture of tow for the various uses to which it is put, its importance and profit will be greatly enhanced, for even without utilizing the straw, it is found in many districts the most profitable crop grown—much more so than oats, which seems to be its natural competitor for the appropriation of ground, where rotation in farming is pursued, as they both succeed the corn crop and both precede the wheat crop. Flax leaves the ground in better tilth for the wheat plant than oats. It is also very frequently grown upon sod turned in the fall or early spring, instead of the usual summer fallowing for wheat, thus obtaining an additional crop.

The growing of the flax, and the handling of the straw for manufacturing fine linen, requires different treatment throughout, from that grown for seed. *It is a business not understood or practiced in this country at present*, but the attention of European manufacturing capitalists is being directed to this country, which will doubtless soon bring forth fruits. In fact, I have letters in my possession now, making inquiries where a suitable location can be found, and which is now being looked up among the rich flax growing districts of our State, where pure water courses are sufficient for bleaching purposes and otherwise favorably located.

But, for the present, we are considering the question of raising flax for seed, as a profitable farm crop. Among the arguments advanced in its favor is that the farmer gets his returns in less time after sowing, than from any other crop—four months being quite sufficient. The average yield, when grown on good rich corn land is from ten to fifteen bushels to the acre, and the average price from \$1 to \$2 per bushel. The flax plant is not particularly tenacious about the kind of soil, provided it is rich in plant nourishment and free from weeds, an abundance of which we have in nearly every county in the State.

The time of sowing the seed is indicated by the state of the weather and the advance of the season. In the north part of the State the average time, perhaps, is about the first of May, or before corn-planting, and as soon as the young plants would be considered out of danger from severe late frosts. The same rule will apply to all other localities. The seed should be sown on a well pulverized bed upon which a crop of weeds *was not* raised the previous year, to insure the best result.

Mr. John R. Procter, of Kentucky, makes an elaborate report on flax culture in that State, from which I make the following extract on the subject of sowing the seed:

"It is of prime importance that the seed be sown evenly. The quantity will depend on the object for which it is grown. If only for the seed, it should be sown thin, so that the plants will grow branching, many of the branches being as large as the main stem; on all of which will form seed-bolls. I would not recommend thin sowing, for it is possible to grow the flax both for the fiber and seed at the same time. If grown for the seed only, from three pecks to five pecks of seed should be sown to the acre. In Ireland; from two and one-fourth to two and one-half bushels per acre are sown; in Belgium, often as much as three and a half bushels per acre. I would not advise the sowing of less than two bushels per acre, where a good fiber and profitable yield are desired. Sow as early as the condition of the ground and weather will permit. Finer fiber is obtained from early sown flax. Good results, however, can be obtained by sowing whenever conditions are right, from March to latter part of May. Never sow during rain, or when the soil is wet. To insure even sowing, stake off the land, and mark from stake to stake by drawing a chain across the land after it has been harrowed and rolled. Make the lines about twelve feet apart. Having ascertained the quantity of seed necessary, divide the total quantity in quarts by the number of beds, so as to ascertain the number of quarts requisite for each bed of twelve feet. The sower should proceed with a regular step, taking small, tight handfuls, and casting the seed, with regular throws, high and fearlessly, letting each cast slightly overlap the preceding one. Care must be taken that the seed, which is very slippery, does not escape in the backward swing of the hand. Some cultivators advise soaking the seed in slightly warm water for two or three hours, and then rolling it in plaster or gypsum. This renders it less slippery, and the gypsum is beneficial to the germinating plants."

Having taken an interest in flax culture for some years, and having had a pretty fair opportunity of observing the rapid and increasing interest in its growth for the production of seed, I am encouraged to believe that its culti-

vation for fiber will prove equally profitable, necessitating the establishing of extensive manufactories for the production of fine linen, and thus become an important factor in our State industries.

NOTE.—The returns of township trustees to the Bureau of Statistics and Geology, for the report of 1879, show 62,820 acres sown to flax, and 97,801 tons of fiber in the State; but as only 629 trustees out of 1,011 made reports, the proportional number of acres and tons aforesaid would be as follows: Acres, 100,085; tons of fiber, 156,265; bushels of seed, 1,313,787. Sixteen counties reported 9,277 acres without reporting the tons of fiber. One county reported 310 tons of fiber, but gave no acreage.

The counties reporting the greatest acreage of flax are Benton, Clinton, Delaware, Grant, Hamilton, Hancock, Henry, Howard, Jasper, Jay, Madison, Miami, Newton, Randolph, Rush, Wabash and Wells. Each of these range from 8,000 to 9,000 acres.

STATE HEALTH COMMISSION.

JOHN COLLETT, A. M., Ph. D.,

Chief of Bureau of Statistics and Geology of Indiana:

DEAR SIR:—I herewith transmit to you the second annual report of the Indiana State Health Commission, consisting of the report of the Secretary, and articles furnished by the following gentlemen, viz:

S. C. Weddington, M. D., Jonesboro, Indiana.

J. W. Hervey, M. D., Indianapolis, Indiana.

G. W. Burton, M. D., Mitchell, Indiana.

Wm. S. Haymond, M. D., Indianapolis, Indiana.

G. L. Curtiss, D. D., Indianapolis, Indiana.

J. T. Scovell, Terre Haute, Indiana.

Respectfully submitted,

Yours, etc.,

THAD. M. STEVENS, M. D.

Secretary of S. H. C.

INDIANAPOLIS, IND.

MEMBERS OF INDIANA STATE HEALTH COMMISSION.

WILSON HOBBS, M. D., Knightstown, Ind., President.
THAD. M. STEVENS, M. D., Indianapolis, Ind., Secretary.
G. W. BURTON, M. D., Mitchell, Ind., Treasurer.
J. W. HERVEY, M. D., Indianapolis, Ind.
J. L. CAMPBELL, LL. D., Crawfordsville, Ind.
S. H. CHARLTON, M. D., Seymour, Ind.
JOHN COLLETT, A. M., Ph. D., Chief of Bureau Statistics,
ex-officio member, Indianapolis.

CHAIRMEN OF DISTRICT HEALTH COMMISSIONS, APPOINTED BY THE STATE HEALTH COMMISSION.

First District—S. E. MUMFORD, Princeton.
Second District—E. D. LAUGHLIN, Orleans, Orange County.
Third District—S. H. CHARLTON, Seymour, Jackson County.
Fourth District—J. D. GATCH, Lawrenceburg, Dearborn County.
Fifth District—J. C. SMYTHE, Greencastle, Putnam County.
Sixth District—WM. COMMONS, M. D., Union City.
Seventh District—J. W. HERVEY, Indianapolis, Marion County.
Eighth District—J. T. SCOVELL, Terre Haute, Vigo County.
Ninth District—W. W. VINNEDGE, Lafayette, Tippecanoe County.
Tenth District—J. A. SUTTON, Rochester, Fulton County,
Eleventh District—W. LOMAX, Marion, Grant County.
Twelfth District—H. D. WOOD, Angola, Steuben County.
Thirteenth District—J. B. WEBBER, M. D., Warsaw, Kosciusko County.

SECOND ANNUAL REPORT

OF THE

Indiana State Health Commission.

In the first report of the Indiana State Health Commission (contained in the report of Prof. Collett, Chief of the Bureau of Statistics, for 1879) we gave a history of the organization and workings of the Commission up to the spring of 1880. Since that time the Commission, in accordance with instructions from the Indiana State Medical Society, have succeeded in establishing District Health Commissions in the thirteen districts. In several of these the chairmen have appointed County Commissions.*

Circulars have been sent to each member of the State Medical Society and many others, containing the action of the society, plan of organization of local Commissions; and synopsis of a proposed law to establish State and Local Boards of Health; and form of blanks for return of births, deaths, and notes of epidemics. The distribution of such blanks and circulars has been mostly confined to members of the Indiana State Medical Society, only because of the impossibility of ascertaining properly organized bodies outside of such society.

The entire profession of the State, without regard to isms, pathies or divisions, should be bound together in the work connected with vital and sanitary science. This can only be done by a law of the State, and such law must have bodies organized to act in the several precincts of the State, and not depend upon one to collect statistics, or complete investigation.

*For organization of District Commissions see transactions of Indiana State Medical Society, 1880.

We trust that each county medical society of all "schools of medicine" will have blanks for the return of births and deaths, similar in form to the ones issued by the Commission, issued to each of its members or to each physician in their county.

It is not expected that reports will be full, or the result of this movement altogether satisfactory. This can not be, except with the law we have advocated, but it will aid and act as an educator, at least, to draw attention to the importance of such a work, the need of a law, and help to perfect a proper plan.

In our last report, as we have mentioned, will be found a synopsis of a proper law, in which, while we provided for the establishment of a State Board of Health, invested with limited police power, we also provided for local boards, to collect and transmit to the State Board vital and sanitary statistics, the State Board to report such to the Bureau of Statistics.

Since that report was published, the committee on revision of law for the State has sought to amend and improve the law that created and governs the Bureau of Statistics. In such amendment the Chief of the Bureau has power to call upon all physicians and coroners for reports of deaths, and all physicians and accoucheurs for reports of births. All township trustees and local boards of health that may be organized are also required to report to the county clerk all statistics coming within their knowledge, said clerk to report the same, together with a copy of records of marriages, to the Chief of the Bureau of Statistics.

Such amendment we consider as a great advance in the right direction, and, with the exception of a faulty arrangement, it would, no doubt, operate well to accomplish one of the principal objects sought, viz., the collection of vital statistics, but we can not fail to perceive that a very important object has been placed in a secondary position, and has not by such amendment received due consideration. The great object of investigation in sanitary science and the proper collection of sanitary statistics has been left in a crippled condition.

To bring this part of the subject up to the proper standard, we should have, first, a central body, organized to make investigation in sanitation and preventive medicine, and at least with power over general quarantine; and, second, local boards of health should be organized in each township and city of the State, and to each, a health officer, who should be a physician, should be attached, whose duties shall be to make investigations in their several localities in sanitation, and report to the Central, or State Board. Such

local boards being organized by law, might send the reports of those whose duties it is made to report vital statistics, physicians, accoucheurs, coroners etc., either to the State Board, or to the Chief of the Bureau of Statistics.

Without the organization of a Central, or State Board of Health, and of local boards as we have mentioned, neither the Bureau of Statistics nor by any other means now in existence can full and satisfactory results be obtained. Investigation on subjects connected with sanitation, or the control of quarantine are not the function of the Bureau of Statistics, and without such investigation no statistics of this kind will exist, and therefore none can be collected by such Bureau.

Below we present a form of a bill somewhat similar to the one proposed for Vermont, establishing a State, and local boards of health, with their duties.

This bill is so formed that it adapts itself to the condition of things now existing in the State, for the local boards, together with the Central, or State Board, are bodies forced not only to collect vital statistics, but to investigate sanitary subjects which are sent to the Bureau of Statistics, and by them tabulated and published.

PROPOSED ACT TO ESTABLISH A STATE BOARD OF HEALTH AND VITAL STATISTICS FOR THE STATE OF INDIANA.

It is hereby enacted by the General Assembly of the State of Indiana:

SECTION 1. The Governor, by and with the consent of the Senate, shall appoint seven persons, five of whom shall be physicians and one a civil engineer, who, with a secretary appointed as hereinafter provided, shall constitute a State Board of Health for the State of Indiana. The Chief of the Bureau of Statistics shall be deemed one of the members of such Board. The term of office of the persons so appointed shall be so arranged that the terms of two of them shall expire at the end of every second year. The Chief of the Bureau of Statistics, however, shall continue by virtue of his office. Vacancies in the board shall be filled by re-appointment or otherwise by the same appointing power.

SEC. 2. The board shall meet immediately upon receiving notice of their appointment, at such time and place as the first-named member of the board shall designate; shall organize by the election of a president, who shall be one of their number, and of a secretary, who shall be a physician, and if not one of their number by appointment, shall by such election become a member *ex-officio* of the board, and shall hold the office of secretary four years, or until another is elected.

SEC. 3. The board shall take cognizance of the interests of life and health among the inhabitants of the State; shall make, or cause to be made, sanitary investigations and inquiries respecting the causes of diseases, especially of epidemics, and the means of prevention; the sources of mortality and the effects of localities, employments, habits, and circumstances of life on the public health; they shall also investigate the causes of epidemics and other diseases occurring among the stock or domestic animals of the State and the methods of remedying the same, and shall gather information in respect to these matters and all other kindred subjects, which shall be committed to the board for diffusion among the people in such manner as the board shall deem best. They shall also, when requested, or when in their opinion the sanitary interests of localities require it, advise with regard to the location, drainage, water supply, heating and ventilation of public buildings, and the drainage and sewerage of towns and cities.

SEC. 4. The board shall meet biennially on the second Thursday of the session of the legislature, at Indianapolis, and at such other times and places as in the judgment of the board the public health may require. The secretary shall be the executive officer of the board; shall superintend and perform the work prescribed in this act, and perform such other duties as the board shall direct. He shall deliver, or cause to be delivered at least one public lecture on sanitary science and the laws of public health, in each county of the State during each year; shall respond to the instructions of the State Board, or to the invitations of the local boards of health hereinafter provided for, in case of epidemics, contagious diseases, or other unusual sickness by visiting the locality, or in such other way as may be deemed best; shall render the Secretary of State and Chief of the Bureau of Statistics any necessary assistance in preparing for publication the annual registration reports required by law relating to births, marriages and deaths in the State, and shall annually report to the Governor, through the Chief of the Bureau of Statistics, on or before the first day of August in each year, the investigations, discoveries and recommendations of the board, which shall be printed and distributed as soon as practicable thereafter, in the same manner as other public documents of the State, and also printed as part of the report of the Bureau of Statistics, and the whole expense of the board for services rendered shall not exceed ——— hundred dollars per annum. The salary of the secretary shall be fixed by the board, provided it shall not exceed twelve hundred dollars per annum, but his traveling expenses shall be paid in addition thereto.

SEC. 5. The trustees of each town, the mayor and aldermen of each city in the State, and trustee and assessor of each township, shall constitute

a board of health, ex-officio, for each of the several towns and cities of the State, of which a trustee of each town and the mayor of each city and the trustee of each township shall be chairman. They shall annually, on the second Tuesday of March of each year, complete their organization by the election of a secretary, who shall be a physician, and who shall be allowed such compensation from the town, city or township treasury as the local boards shall direct, provided, however, that the secretary of each township board shall be elected by the Board of Commissioners of such county. The local boards shall act in conjunction with the State boards in carrying out the practical intent and operations of this act, and it shall be the duty of the secretary of such local boards at least once in a year, and oftener if requested, to report to the State Board of Health such facts and statistics as may be required under instructions from the State Board.

SEC. 6. The city or town boards of the locality concerned shall have authority, under the direction of the State Board, to promulgate and enforce such regulations for the better preservation of the public health in contagious and epidemic diseases as they may deem best, and any person or persons or corporations neglecting or refusing, after having been duly notified in writing to comply with the requirements of such regulations, shall, upon conviction thereof, pay into the State treasury a fine not less than five or more than ten dollars for each and every such offense, to be recovered upon complaint of any grand juror of the several towns or cities or townships before any justice of the peace competent to try the same.

SEC. 7. This shall take effect from its passage.

The enactment of the above law, in addition to the bill now governing the Bureau of Statistics, amended so as to enforce the collection of vital statistics, would be efficient, and all that would be needed upon the subject of public health and vital statistics. For this the medical profession of the State has labored for years, and we have faith that the Legislature, in its wisdom, will speedily grant what is asked for.

THAD. M. STEVENS, M. D.,

Secretary State Health Commission.

PREVENTION OF DISEASES.

BY S. C. WEDDINGTON, M. D.,
Jonesboro, Ind.

Among enlightened people none now hold the ancient doctrine, still prevalent in some countries, that diseases are inflictions sent by imaginary deities through caprice, or for purposes of revenge. Neither are there many who believe them to be dispensations of Providence, for purposes of discipline or of punishment. But science has demonstrated that they are the result of rigid natural laws; and that by learning these laws and avoiding causes, diseases may often be averted or prevented. It is true that some diseases depend upon causes which we can not control or avoid; and some of those which are most grave in their consequences, such as consumption, scrofula, epilepsy, insanity, syphilis and drunkenness, are in their nature, hereditary. But, while hereditary influence cannot be escaped entirely by the unfortunate victims, yet, by proper care and judicious treatment they may be kept in check; and those diseases, if not escaped, may be ameliorated, and possibly eradicated.

Consumption, that word of terror, which causes such a large percentage of the deaths in the world and brings so many prematurely to the grave, may be kept in abeyance; and it has now been proven that this disease is not always hereditary, but may be contracted. Experiments on animals have shown that the sputa, or expectorated matter from tuberculous lungs, when dried and reduced to powder, may float in the air; and when breathed into healthy lungs will produce tuberculosis. Also, that flesh of cattle infected with this disease may re-produce it by being eaten. Also, it may be caused by milk from a tuberculous cow. Undoubtedly many cases arise from these causes, which by knowledge and proper hygienic measures might be prevented. Scrofula is similar in its nature and causes to consumption; and by some is thought to be the same disease in a different form.

There is good reason to believe that epilepsy and insanity, when hereditary, may be prevented from developing by proper hygienic regulations. If so, the hereditary tendency, in a very few generations, would cease.

Syphilis, which Dr. Sims tells us, is poisoning almost entire communities, the innocent as well as the guilty, might at once be prevented from

spreading by contagion if proper moral and legal rules could be enforced and observed.

And the intemperate use of alcohol, so blighting in its influences, so deadly in its effects, and so terrible from the number of its victims, we all know, is caused and fostered, and its fearful work consummated, by vicious habits.

A number of diseases, including those which have been most destructive to human life, which were formerly considered obscure and their causes unknown, have been found, within the last few years, to be caused by germs or poisons which are conveyed in some way from one person to another; and there can be no doubt that means can be devised, and in some cases are already known; to prevent the spread of such diseases. In fact those terrible epidemics, which in former years almost depopulated large districts, are now, in enlightened countries, quite rare; and they might, from the knowledge already obtained, be prevented from ever occurring again, if the proper means were not neglected. The last epidemic of great magnitude and fatality which has occurred in this country was that of yellow fever in 1878; and it was a disgrace that it was allowed to occur.

When the great Chicago fire was first kindled in the stable on Canal street, it might easily have been extinguished; but before proper effort had been made to extinguish it, it was beyond control. Its limits and heat were soon so great that no earthly power could control it. So, when the yellow fever commenced in New Orleans it might have been prevented from spreading, but adequate means were not used, and it, like the fire, got beyond control.

It is to be hoped that a lesson has been learned which will prevent a like occurrence in the future. In the same category, besides yellow fever, are plague, cholera, typhus and typhoid fevers, relapsing fever, scarlatina, diphtheria, small-pox, and other diseases of less note, all of which are preventable if proper means are used.

All epidemic diseases are contagious in some way; they become epidemic because they are contagious; and all contagious diseases may be prevented. Typhus fever has long been considered contagious. It is probably caused by a specific germ, but it is rendered more virulent and fatal by exposure to the poisons which originate in decomposing animal substances. Typhoid fever is caused by a specific germ or poison which exists in the excreta or dejections from the bowels of typhoid patients. It is generally received into the system by being swallowed in water. These germs are sometimes carried many miles in running streams; and they find their way into wells and springs through quite a depth of earth, and sometimes at

quite a distance from where the excreta are deposited. It is thought also that this fever is sometimes contracted by using milk from cows that have drank contaminated water. Contaminated wells are a prolific source of this fever and of other diseases. If these things were understood, and proper precautionary measures used, typhoid fever would never become epidemic, and would seldom occur.

Throughout large portions of Indiana, as well as other States, the amount of malarial fever has been greatly diminished by the draining of ponds and swamps and stagnant streams, ditching and cultivating the lands, clearing and draining swamps, etc. If this work goes on as it should, it is probable that malarial fever will, in time, disappear. Where malarial swamps exist which can not be drained, it is not improbable that planting eucalyptus trees may lead to the neutralization of malaria and render such regions healthy. Very encouraging reports have been received from countries where this method has been tried.

Thus it is seen that a very large proportion of the diseases from which we suffer may be prevented, if we will learn how and then use the means. In order to accomplish this three things are necessary:

First—Physicians must learn what diseases can be prevented and how this can be done. In order to arrive at this knowledge, it is necessary for them to find out what diseases are contagious; in what the contagion consists; how it is created and propagated; and how it is received into the system.

Secondly—The masses of the people must learn how to prevent contagion and spreading of all these diseases, and they must learn to appreciate the importance of the necessary means, and to carry them out quickly, properly and thoroughly.

Thirdly—The strong arm of the law and the active co-operation of the proper officers must direct and aid in the work.

As to the first requirement, much has been done and much remains yet to be done; but a large proportion of the profession are fully aroused to the magnitude and importance of the work. In all portions of the civilized world earnest, energetic, untiring men are laboring, thinking, experimenting and learning. Some of them men of towering intellect and almost limitless opportunities. This part of the work is in safe and competent hands, and will not be neglected.

As to the second requirement, the case is not quite so hopeful, but time and education may remove the difficulties. A portion, and probably a large portion of the people, are ready to sanction and support any measures necessary for the public good; but there are three classes who stand more or less in the way.

First—The ignorant, who can not or do not read; who lack information on the subject and lack the means of obtaining it. For this detriment, probably, the common school system is the best remedy. In many cases the children of this class will be better informed than their parents, and more likely to aid in the work.

Secondly—Those who through wrong education or false theories are prejudiced against what they would term modern notions and innovations, imagining, it may be, that physicians are engaged in this matter in some selfish scheme. Probably some who are called physicians are included in this class. They can not, however, long hide their ignorance or dishonesty, whichever it may be, and by their sibboleth they will be known. For this class there is probably no remedy, except the conviction that they are not on the popular side of the question. We must win the field before we get the aid of this class.

Thirdly—There is a class with sufficient mental capacity, education and honesty of purpose who are deeply absorbed in business, professional duties, political tactics, manual labor, or money making, who will not give the subject proper attention. They think it is not their business, and they do not want to spend time with it. The co-operation of this class is sure whenever they can be induced to give the subject proper attention. Most probably the efforts now being made to disseminate knowledge will reach them ere long.

As to the third requirement, our laws have been sadly deficient; our legislators, having received light but partially on the subject, have been disposed to neglect it; and the necessary offices have not been created, nor the necessary officers appointed. But our leading men have been giving the subject attention, and the dawn of better days is apparent. A National Board of Health has been appointed; and about twenty of the States now have State Boards of Health established; and Indiana probably will have in a short time.

In order to meet this requirement we need a State Board of Health, composed of competent men, with authority to require from physicians in all parts of the State, prompt and full reports of endemic and epidemic diseases, conditions of paludal (swampy) districts, and of water supplies and drainage, especially in towns and cities. And with authority to enforce all necessary quarantine, sanitary and disinfectant regulations everywhere. Also, it is necessary that there should be a sufficient appropriation made by the Legislature to meet all necessary expenses in the performance of these duties, and for the dissemination of information among the people in relation to sanitary measures and the prevention of diseases.

It is the highest duty of the physician to prevent sickness as far as possible; and it is doubtless the highest duty of the legislator to have the public health preserved. The preservation of health and life, the prevention of disease and death, is of vastly more importance to the community than the nice distinctions of *meum* and *tuum* in relation to property; but it has heretofore received much less attention at the hands of legislative bodies. Information on this subject is greatly needed by the people. In this case the wail of the prophet, "my people are destroyed for lack of knowledge," is literally fulfilled, and knowledge, if complete enough, will be not only power but safety, happiness and long life.

HEALTHFUL HOMES,
OR,
THE HYGIENE OF THE HOUSEHOLD.

BY JAMES WALTER HERVEY, M. D.

Indianapolis, Ind.

No dwelling can be healthful unless it be situated on dry ground, or so effectually drained by underground ditching as to carry the water quickly from the surface and conduct it off sufficiently far from the house site as to render it effectually dry. The foundation should have drains sunk all around it, or at least on two sides, not more than four feet from the walls, and at least twelve inches below the floor of the cellar. If the cellar be damp the air in it will be charged with humidity. This will ascend through the floors and enter the dwelling. The walls will be damp and the family will inevitably feel the influence. Prof. Bowditch, of Boston, in a report made to the State Board of Health in 1876 upon the causes most potent in producing consumption says: The most prominent cause of this most prolific destroyer of human life may be summed up in two words, "*damp dwellings*." Not only is consumption produced by this cause, but rheumatism, neuralgia, bronchitis, and bowel disturbances in children. If the cellar be damp and the air rendered impure by rotten vegetables or other decaying matter, then to the danger of dampness is added a poison that preys upon the vitality, tending to develop the most fatal diseases, such as typhoid fever, diphtheria, scarlet-fever and dysentery. Some of the most devastating epidemics on record have originated in this way. It is a well-known fact that air from cellars will be pumped up through the floors, or ascending through other outlets will enter through ventilating flues, for the reason that when the room is warmed the warm air in the room will pass up and out, creating a vacuum that must be filled by air from below. We must not fail to note this very important fact, that the sewer, or ground air, as commonly termed, is the air that enters our dwellings, and is that which the family must

breathe; then we will comprehend the importance of having the ground upon which the dwelling is situated dry and drained, and of having the surface free from every species of filth.

IMPORTANCE OF SUNSHINE.

The necessity of an abundance of fresh air and sunshine can not be over-estimated. In connection with this consideration, we should not be unmindful of the direction of the prevailing winds. If a current of air comes from low, boggy grounds, where rank weeds have grown up, fallen and are decaying upon wet ground, the winds that sweep over them toward the dwelling, must necessarily bring the elements of the decomposition going on upon such localities with it to the home, to be breathed into the lungs of the family. The effect of such winds could not fail to be disastrous to the health of the inmates. Hence, it is apparent that the surroundings of the home site have much to do in modifying the conditions of the air breathed by the family, and it is necessary to look well to the character of the country around the homestead, and ascertain whether or not it is in close proximity to slashes, or ponds, or mill dams, that these objectionable conditions and localities are so located that the usual wind current will not sweep their emanations upon the family home. The sunshine should have free access to the building, and every room in the house should receive its blessings at some time each sunny day. Sunshine is the great source of light and heat. It vivifies the vegetable world, purifies the air, destroys mold and moth. The good house-wife is cognizant of this fact when she suns her beds and carpets and woollen goods each month. The salutary influence of sunlight upon health is recognized in the arrangement of modern hospitals, in which provisions are made for certain kinds of patients to take a sun-bath when ordered by the attending physician. Most persons have heard the remark that setting or standing in the sun will bring on the chills. Some learned authors contend that the action of the sun on the system increases the secretion of bile. I shall not here enter into a discussion of these questions. Enough is known to substantiate what we have said with reference to the salutary influence of sun-light. Most dwellings are carefully guarded against the ingress of light. Blinds are carefully drawn, and each finely furnished room is kept as dark as the cell of a criminal. Let in sun-light with its cheering antiseptic influences. No room is fit to sleep in that has not had a full supply of sun-light, and had the windows open at least an hour each day.

HEATING AND VENTILATION.

When we estimate the amount of air that each adult consumes each hour and each twenty-four hours, we will be astonished at the errors to be

found in the construction and management of our dwellings. A healthy adult will breathe off from the lungs from twelve to sixteen cubic feet of carbonic acid gas in twenty-four hours; beside this, an undetermined amount of the same gas is thrown off by the skin. Now, if this amount be thrown into the atmosphere of a room without inlets for fresh air and outlets for that which has been poisoned, health must suffer, and even life itself succumb. It is estimated that two hundred times the amount of this twelve or sixteen cubic feet of carbonic acid gas of fresh air should be poured into a room for the use of one person, or three thousand five hundred cubic feet per hour. The expired air, in other words, has to be constantly diluted with two hundred times its measure of fresh air to give that ventilation that nature demands and health requires. From these facts each one can make his deduction and practical application, as it is impossible in so short a paper as this to give details.

The warming of rooms is quite as important as any other consideration. To work a reformation in this department would require an eternal warfare against popular ignorance, prejudice and stove venders, as well as against the fuel economy of the times. Stoves that will consume the least fuel and present the largest amount of heated cast iron surface are those that demand the largest trade. Next error is choosing small stoves because they consume less fuel and occupy less space. The smaller a stove is the hotter it must be kept, and the hotter a stove is the more will it dry up the humidity of the atmosphere and burn the combustible elements that float upon it. Who has not felt the influence of the air of rooms heated by hot cast iron surfaces? The scorched dust or organic elements that are mixed with the air can be smelt. The dry, heated air produces a tickling in the throat and the lack of vitalizing properties is felt in a dull headache and general stupor. To economize fuel every crack and inlet for air is stopped to save the heat. What comes in is, as said before, pumped up through the floor from a damp cellar or damp surroundings, too often rendered impure by rotting vegetable or animal matter. To count the suffering, the invalidism and death that have resulted from these causes would transcend the limits of this paper. Will those who read this article estimate the enormity of customs and usages so common, and turn their effort into the work of a much needed reformation, or will they read and turn away from these facts saying they are unfounded assertions, made to gather notoriety from the public? If so, we must wait till another generation is educated into a better knowledge of household hygiene. If stoves must be used, select those that have double walls, so that the outer surface is not heated directly by burning fuel, but is tempered and modified by a chamber of hot air. Select large

stoves, so that they will not have to be made too hot to warm the room, and keep water evaporating on some part of the heater to keep the humidity of the air in such condition that it will not dry up the air passages when breathed and produce a tickling sensation and create a cough. Let the ventilation in from above. Open doors and windows occasionally and give the room a good air bath. What is lost in fuel will be saved in doctor's bills.

SIZE OF ROOMS AND THEIR STRUCTURE.

The size of rooms must be in proportion to the number of those who occupy them, and the use they are put to. Reference to the amount of air consumed by each person will give the information needed in determining the number that should occupy each room. Sitting rooms, and those into which persons are coming and going, letting in cold air and necessitating more fuel, the ventilation can not be regulated only by common sense and contingencies. These rooms should be often opened up and swept out and thoroughly refreshed with pure air. The floors of rooms should be kept scrupulously clean, no spitting on it should be allowed, nor should numerous filthy spittoon be allowed to stand full of diseased saliva and tobacco juice, nor filth brought in on the feet, as the moisture they bring will evaporate in the air of the room and be breathed into the lungs. Consumption may be communicated in this way as well as syphilis, that most loathsome of all diseases, and why not if it be mixed with the saliva and mucus coughed up and spit out upon the floor, where it will, of course, evaporate with other fluids and poison the air. The paper on the walls of the room is not a trifling matter. No wall paper containing poisonous colors should be allowed, nor should a room be occupied while paints are drying, especially if they contain lead or arsenic. When rooms are scrubbed or mopped they should dry before being occupied by delicate persons. Many relapses of dangerous sickness have resulted from not observing this fact. The windows should be long, and, if possible, double, as in this instance it will save the extra cost in fuel and the health of the family. The outside sash can be raised below and the inside one lowered at the top, so as to give complete inlet and outlet of air without any appreciable currents. The air coming in from below is partially tempered by the warmth of the room before it enters, and as it enters at or near the ceiling, no cold is felt, and as it fills the room the warm air will take the same direction back and out again in a steady current. The same effect can be to some extent produced by fitting a board four inches wide under the lower sash, so inclined that the air will be turned up when it enters the room, and not come in a straight current, which always produces chilliness, and many bad colds are contracted from sitting in such

currents. The air will sing through a slight crevice and the one who sits by it will have a sore throat, headache, or cough next day.

Beds should have very careful attention, often sunned, and when not used for a few nights the sheets should be put out in the wind and sun, or hung before the fire before used. Many delicate persons are made sick by sleeping in beds that have not been used for some time. The warmth of feathers and blankets will condense the air and dampen beds in rooms where there has been no fire.

FAMILY CLOTHING.

Delicate ladies and children require great care in protecting the person from dampness and cold. Indeed, it is better to wear warm underwear about home than to keep the rooms over-heated with fire. Persons predisposed to consumption, rheumatism, bronchitis or bowel complaints should wear flannel next the skin during cold and changeable weather. Better wear less heavy outer garments than let the surface be chilled. Let the feet be protected by good yarn stockings or socks, and never permit girls or their mothers, or delicate males to wear paper bottomed shoes out doors, but compel them to use a substantial shoe with good thick sole; not allow a No. 4 foot to be crowded into a No. 3 shoe, for if they be too tight it obstructs the circulation and keeps the feet cold. Never allow any member of the family to go to bed with cold feet. The garments should not only be of suitable material to give proper warmth, but they should all be so roomy as to not cramp the system. Tight lacing is a sin against common sense, and a violation of the most sacred laws of health. The stomach is prevented from a healthful digestion, and the lungs are so crowded that the air does not enter in sufficient quantity; hence, the blood is not properly vitalized, without which the health must in time suffer. The head is often not properly protected. The neck and shoulders are too often exposed to damp and chilly atmosphere and many a fair beauty has found an early grave by a vanity for the display of her bewitching arms, neck and shoulders.

I would like to enter the kitchen and give directions for cooking and eating, and direct each member of the family. Also, to examine the well and out-buildings, but space will not admit. I shall only have time to refer to some matters connected with the health of the household that have been but seldomly, if ever, brought before the public mind in connection with hygiene, but which I regard as important as any to which I have referred to, and which I now introduce.

THE DISCIPLINE AND HARMONY OF ALL OF THE FAMILY RELATIONS.

Hygiene has a much wider range of utility than that of mere physical details or tangible relations. It takes cognizance of man as a social, moral

and an intellectual being. Its mission is among all the causes that prey upon the health of individuals, families or community. The rankling passions, the wounded feelings, the sorrowing heart, jealousy, anger, grief, cruelty and revenge, all tax life's resources, and tend to organic disturbances. No household can hope to be undisturbed in general health by social inquietude, by bickerings and feuds. Children need the sunshine of not only each other's smiles, but that of father and mother. To be well they should be full of cheer. The picture of a home where all are pouty and pettish, where no love is manifested, no affection shown, where no discipline is maintained, no order observed, no kind words spoken, each heart must be sad or cruel. There no pure healthful manhood or womanhood can grow up. The family will desert or become invalids or monsters. The effects of the mind and affections on the general health is too well known to be doubted. The effect of cleanliness, order and moral sentiment no one will doubt. The best men and women come from homes often of comparative poverty, but from where a mother's love has turned every heart to harmonize with her affectionate efforts; where a father's prayers went up from the family altar, where honesty and industry were taught, where the cheerful song of merry childhood was borne to heaven by warm-hearted parents on wings of praises to God; where the early morning was busy with preparations for the day's duty, where the meals were well and regularly cooked, where warm stockings and socks were knit by mother and sisters, warm and substantial underwear was made and worn, and good thick boots or shoes; where the family had good, warm beds, and plenty of air and sunlight got into the bedroom; where the family eat their suppers in time to digest before going to bed; where the whole family went to bed in time to get the amount of sleep nature required.

From such homes come specimens of moral and intellectual manhood and womanhood; from such homes come presidents, statesmen, generals, judges and divines who leave a mark behind them. A cheerful, happy home is our terrestrial paradise. No word kindles so many happy memories as home; no hope of heaven so kindles the soul to rapture as that of a home where changes never come. But who would love to recall the memory of the other home to which I have referred? A home without health is like a lovely flower that has lost its sweetness and its beauty; like a charmed vision veiled in darkness, or a gem in the ocean's caves.

Then permit me, in the close of this short paper, to implore the citizens of this grand State to spare no pains to make their homes healthful in all of the details herein specified. Let no one who has a spot he calls home fail to

study all the requirements that are essential to this end, and make a practical application of that knowledge. The future will bless the name of whoever shall, in any way, turn the thoughts of the thoughtless to this, the most essential necessity of the age. Has not the time come for our people to devote more time, study and means to the home and the health of the family? Shall I be any aid in the consummation of this end, I shall be happily rewarded for this humble contribution to the hygiene of the household.

MALARIA, OR MIASM.

BY J. T. SCOVELL, M. D.,*Terre Haute, Ind.*

Ague, or intermittent fever, in all its varied forms, has been known from the earliest times. While it has been known for a very long time, and has been very carefully studied, we, as yet, know nothing definite about the real nature of its cause, and understand but imperfectly the circumstances under which it is developed. The disease occurs in the warmer regions of the earth, or in the warm season of cooler regions, usually in the neighborhood of marshes, shallow ponds, or slow-flowing streams. For this reason the cause is called marsh miasm, or simply miasm, or malaria. The circumstances which most commonly attend the development of miasm are moisture, decaying vegetation, and a temperature, for at least six or eight weeks during the summer, of 60° F. As the warm season lengthens and the heat becomes more intense, the miasm becomes more powerful, so that intermittent fevers are much more severe and fatal in the tropical than in the temperate regions. The Dismal Swamp of Virginia, the bogs of Ireland, and swamps in many other localities, are comparatively free from malaria. In general, swamps and other lands whose water level is unchanging are free from malaria, while over those that are covered with water during a portion of the year malaria is developed as the water is evaporated and the land warmed by the heat of the following season. Yet there are unexplained exceptions to these general principles. We know that oscillation of temperature has been assigned as a cause of the results ascribed to malaria, but whatever cause we may select as true, the preventive measures, as well as the treatment of the effect, are the same. The malaria arising from marshes covered with a mixture of salt and fresh water is especially severe in its effects. Malaria diffuses slowly through the air, and to some extent follows the motions of the air, but its spread in the air is easily checked by obstacles, such as trees, walls, low hills, etc., yet in some cases it has been carried by the air for miles. Malaria is more commonly met with on low grounds, but low grounds with a dry subsoil may be free from malaria, while neighboring highlands with a wet subsoil have an abundance of malaria. Malaria may be carried for long distances by water, so that many apparently healthy localities are supplied

with malaria in this way. Malaria may lie dormant in the ground for many years, becoming active when the ground is opened, as in ploughing, digging canals, or making railway cuttings, and in earthquake regions malaria is said to issue sometimes from fissures in the earth made by earthquakes.

There are a great many other curious and interesting facts about malaria, but those mentioned will give us some idea of its peculiarities. In our latitude malarious diseases are not usually speedily fatal, but they sometimes assume a pernicious form; while in tropical regions this pernicious form is much more common. In the history of this disease many different forms of treatment and many different remedies have been used, but at no time has the treatment been as successful as at the present.

Malarious diseases may be checked, interrupted, and perhaps cured, if the person afflicted remove from the influence of the miasm. A person who remains under the influence of malaria is liable to a return of the disease in some form, and while he may be in no immediate danger of death, he can never hope for that vigor of mind or body that he had before coming under the influence of malaria. The person who remains under the influence of malaria not only can not hope to regain his former vigor of mind and body, but may be sure that his powers of body and mind will gradually fail till he sinks into a premature grave. A great amount of poverty and crime can be traced to this disease. It does not kill quickly, but it weakens and incapacitates for work; the little pittance earned is not sufficient to pay doctor bills and procure good food. Lack of food and the exposure incident to poverty intensify the disease, and the victim soon becomes an inmate of the poor-house or hospital or goes to a pauper's grave. With poverty come temptations to crime and intemperance, and malaria brings about just that condition of mind which allows the individual to fall easily under the influence of any temptation. We find, then, in malarious districts a set of disastrous conditions which the physician is confessedly unable to meet or remove with medicines.

But physicians suggest certain precautionary measures, which, if followed, will greatly mitigate the severity of these conditions. The house should be on high, well drained ground; not on ground whose surface only is dry, but whose subsoil also is dry. Our prevailing winds are westerly, so that houses should not be built on the eastern side of rivers, marshes, or any malaria-producing districts, as the winds would surely bring malaria to such locations. If a house must be built on such an exposed site, it should be protected by a screen of trees or rank growing plants, as the sunflower. If houses must be built in damp localities, rapidly growing trees, by taking up great quantities of moisture, and in removing a source of danger, are of great service.

No decaying vegetation should be allowed to remain under the house; the site should be well drained, and the house should not be densely shaded by trees. Malaria may be said to rise and set with the sun. As the surface of the earth becomes heated by the morning sun, the air rises, carrying the malaria with it; toward sun-set the surface becomes cool, and the air and malaria sink down again. During the warmer part of the day there is scarcely any danger of exposure. In general, it is safer to be abroad at midnight or midday, in malarious regions, than in the early morning or late evening, for at midnight the malaria is often below the level of three or four feet, and we do not receive it into the lungs. As malaria is often so low at night, upper rooms are usually safer than lower ones. During the night, if possible, keep the air of the house warm and dry; do not allow waste matters to decay about the house. As malaria may be transported for a long distance by water, care should be used to insure a supply of pure water; if there is any suspicion of malarial contamination, the water should be boiled before using. Air penetrates the ground for many feet; during the cold season the warm air of the house causes currents of this ground air upward into the house, and these frequently bring malaria with them from water or decaying vegetation; hence the necessity, in damp, badly drained localities, of making the whole surface underneath the house as nearly impervious to air and water as possible. The system can, to some extent, resist the action of malaria. Any circumstances that tend to weaken or depress the powers of the system lessens this power of resistance. There should be no exposure to malaria when the body is fatigued with physical or mental labor, nor when the body is wet and cold. If exposure is necessary, the system should be fortified by a stomach well filled with good food. Avoid all circumstances that tend to depress the tone of the nervous system. All worry and excitement of every kind should be avoided. By observing the above suggestions as carefully as possible, persons have lived in malarial regions for years without material suffering.

Can malaria be *abated*? Can its development be *prevented*? The Pontine marshes near Rome, over which the malaria was so intense that it was almost certain death for one to cross them at night, were rendered harmless by *drainage* and *cultivation*. When, in after years, the drainage works were neglected, the country became a marsh again, with malaria as intense as ever.

In a certain region of French Algeria the malaria was so intense that three sets of colonists were swept away in succession, and the soldiers were carried off by a very high death rate. The locality was an important military position. The government called in the aids of medical and engineer-

ing experts, the place was drained, cultivated, and supplied with pure water. The malaria has disappeared, the birth rate exceeds the death rate, and the locality is deemed a healthy one. No testimony from country physicians is more constant than that as marshes and swamps are drained and cultivated, malarial diseases become less frequent and severe. Without doubt good drainage and thorough cultivation would, to a great extent, prevent the development of malaria. Such drainage can not be accomplished by private enterprise.

There are thousands of localities in Indiana that ought to be drained by the State, under the direction of medical and engineering experts appointed by the State. This could only be done at heavy cost, but the cost to the State would not be a tithe of the cost occurring from the effects of malaria. The loss of available labor through malarial disease, the cost of maintaining the poor and unfortunate, made so by malaria, the cost of maintaining invalids and criminals whose condition is the effect of this malaria; all these exceed *tenfold* the cost of an efficient *system of drainage*.

Without attempting to discuss disputed points, I have attempted to show that medicine can not remove the effects of malarious disease, while the conditions for malaria still exist; that personal care may do much toward protecting us from the effects of deleterious agents; that a system of drainage and systematic cultivation of the soil will do much to prevent the development of malaria, and that the State can do the work indicated at a much less cost than that incurred from the effects of malaria.

SCARLET FEVER.

BY G. W. BURTON, M. D.,
Mitchell, Ind.

I submit this brief report, hoping in the year to come, to make additions. There seems to be negligence on the part of the profession generally to answer such inquiries.

While this disease has been a "terror," in many parts of the State during the last two years, yet whole neighborhoods have been infected (in many places) before any effort has been made on the part of those in authority, to protect even their own households. In many towns they have denied the existence of the disease when deaths were occurring daily from it. I am as thoroughly convinced of the fact that if local boards of health, school trustees, and those in authority in the towns and cities of the State had done their whole duty by isolating the first cases, that more than 80 per cent. of the children of the State now sleeping in the church yards, would be living. In Mitchell, we had but two deaths. Complete isolation of all the cases prevented the spread of the contagion. In the city of Seymour, over 400 cases occurred, with a mortality of about 18 per cent. The mortality of Bedford, Spencer, Shoals, Laporte, Richmond, New Albany, Rockport, Washington, Owensburg, Vincennes, Mt. Vernon, Salem, Sullivan, and many other towns in the south and central part of the State, I have been unable to obtain, and here is demonstrated the absolute necessity of a State and local board of health to collect sanitary statistics, and superintend operations. Without such organization we can not accomplish much.

"Both scarlatina and diphtheria* are contagious diseases; they are propagated largely, if not wholly, by direct or indirect exposure to persons having the disease. It has been demonstrated again and again, that these diseases may be restricted, and altogether stamped out, when by chance they had gained only a slight footing in a place, nearly as effectually as may small-pox, though in these diseases we have not that powerful aid,—vaccination,—which is so effectual in small-pox. Many people are not aware of the contagious nature of diphtheria and scarlet fever, and it is nothing less than criminal on the part of physicians or others, to teach that they are not

*Dr. H. B. Baker, 7th Annual Report, Michigan State Board of Health.

contagious diseases. Not until the people are thoroughly awake to the importance of immediate and efficient isolation of those sick with diphtheria or scarlet fever, and of the destruction of infected articles, can any family in the State be safe from the invasion of these terrible diseases, because every family is so closely associated with persons, clothing, food, books, etc., coming from all the different ranks in society or stations in life, that even if all the members of a household had perfect knowledge of the nature, causes, and best modes of preventing such a contagious disease as scarlet fever or diphtheria, it is sometimes impossible to avoid contracting the disease on account of the action of other persons, who are ignorant of the contagious nature of the disease, and of the methods by which it is spread. As the strength of a chain is the strength of its weakest link, so also, it is true that the safety of the best informed on sanitary subjects, often depends upon the action of those least informed."

It is of great importance to the welfare of this commonwealth, that every reader of this report will render all possible aid in disseminating the knowledge of the communicability of such diseases.

Below we give the list of questions sent out, and the reply of *a few* physicians thereto :

MITCHELL, IND., January 1, 1880.

DEAR DOCTOR :—Will you please answer the following questions, with any other information bearing on the points involved? Due credit will be given, in my forthcoming report, for any information you may furnish :

1. What was the age of the youngest case of scarlet fever observed by you?
2. What age was the oldest?
3. At what age are persons most liable to contract the disease?
4. At what age is the greatest danger to life?
5. What influence does season have on the disease?
6. What influence a damp or dry atmosphere?
7. What relation to heat or cold?
8. What have you observed as to the influence of imperfect ventilation on the disease, or of thorough ventilation on its restriction?
9. What as to location of dwellings, schoolhouses, damp cellars, cess-pools, sewers, slaughter-houses, ditches and swamps?
10. Have you observed any connection between this disease and diphtheria, or any other disease?
11. What has been the highest temperature noted by you?
12. What has been the sequela of cases observed by you?
13. Have you made any autopsies?

14. What difference does sex make on the disease, if any?
15. What effect does school attendance have on the dissemination of the disease?
16. Within your observation, what is the shortest stage of incubation?
17. What has been the most extended stage of incubation?
18. In your opinion, how is the disease communicated?
19. When does the contagion cease?
20. What class of cases are most apt to communicate the disease?
21. At what period does desquamation begin?
22. What is the average duration of cases that recover?
23. What the average duration of fatal cases?
24. What are the best means of prevention?
25. What would you advise in an epidemic as the best means of protecting the community?

Please give any suggestions you may deem important, and mail to my address at your earliest convenience, and oblige,

Yours, very truly,

G. W. BURTON,

Member Health Commission.

1. Four months.
2. Twenty-fourth year.
3. From the second to the tenth year.
4. From infancy to the tenth year.
5. My observation has led me to believe that scarlatina is more apt to prevail, and in fact to assume the epidemic form during fall and winter months.
6. I believe its dissemination to be entirely independent of atmospheric changes.
7. My experience has led me to believe that cold weather increases its severity and fatality.
8. During the years extending from 1873 to 1877, I was city physician for the city of Jeffersonville. During that time scarlet-fever prevailed extensively, and at one time was considered epidemic. The importance of thorough ventilation was forcibly impressed upon my mind. In one case the poison evidently lay dormant for a period of weeks in an illy-ventilated tenement house. The next occupants, a family of three children, contracted the disease, and one out of the three died. I am led to believe that ill or imperfect ventilation leads to the malignant form, and cases occurring in such localities are more liable to be followed by sequelæ.

9. Dwelling-houses, school-houses, etc., located at or near damp cellars, cesspools, sewers, slaughter-houses, ditches, swamps, etc., have scarlatina in a more virulent form.

10. Diphtheria occurred but once in my experience. In this case it appeared simultaneously with the scarlatina. This case suffered greatly from prostration (adynamia), required stimulants, quinine, etc., freely from the beginning of the attack. During the stage of desquamation large portions of cuticle came off, with almost the entire coats of the hands and feet; one or two toe-nails came off with the desquamatory cuticle. This case had extensive cervical cellulitis as a sequela.

11. A temperature of $106\frac{1}{4}^{\circ}$ F.

12. Inflammation of the lymphatic glands, albuminuria, cervical cellulitis and hemiplegia.

13. None.

14. None, particularly in the mortality.

15. In one instance where a little patient was allowed to mingle freely with school children on the play-ground during the latter part of the stage of desquamation, quite a number of school children contracted the disease. From this instance I am satisfied that school attendance tends to increase its dissemination.

16. My observations in this respect have not been very accurate. As near as I can now recollect the shortest period that I definitely remember was three days.

17. I am unable to answer this definitely. There was one case that the stage of incubation extended to the fourteenth day; in another it extended to the third week, but in this case there was a possibility of having contracted the disease from a *fomite*, and I am inclined to believe that was the mode of contracting it.

18. Both by contagion and infection.

19. I don't know.

20. I believe the disease is most apt to be communicated during the stage of desquamation.

21. It usually follows the fading of the eruption. Generally begins about the fifth or sixth day of the disease.

22. Indefinite; I would say from three to four weeks.

23. Can not give a definite average, but would place the time between the third and sixth week. My experience has led me to be extremely cautious in making a prognosis even in the mildest form of the disease. In fact some of the worst sequelæ I ever saw followed "scarlatina simplex."

24. Entire separation of the sick from the well. In fact I would, if possible, enjoin complete isolation. Observe the utmost care in regard to clean-

liness. Bury the dead as soon as practicable. Would use disinfectants liberally. Of the disinfectants I prefer sulphate of iron, heat, lime (chloride), bromine. I have but little confidence in carbolic acid and agents of that class.

25. I shall answer this question similarly to No. 24, except to make it more emphatic. Entire isolation of the sick from the well, and as nearly as possible, would have nurses and attendants observe the same rules, especially so far as regards coming in contact with children is concerned. If it were possible would quarantine the disease. Would direct the community in which an epidemic existed to observe the rules given in No. 24 in regard to cleanliness and the use of disinfectants. Were it prevailing as an epidemic, would advise the closing of schools and all other meetings where children are in the habit of congregating together.

G. W. Burton, M. D.:

DEAR DOCTOR—I received your communication in January, but was called to Colorado, where I spent the months of February and March with a case of phthisis pulmonalis. I have answered your inquiries hurriedly. Please to overlook all defects, as it is facts that I have aimed to give you. I am truly glad you are preparing a paper on this subject. It is one of the most important diseases that we could investigate. I am satisfied that such papers are steps in the right direction. "Preventive medicine is what we want." My mite, contributed in this feeble way, is freely given.

Very truly and fraternally,

T. A. GRAHAM, M. D.

EVANSVILLE, IND., January 20, 1880.

G. W. Burton, M. D., Mitchell, Ind.:

MY DEAR DOCTOR—I send herewith answers to questions in your circular of January 1, 1880:

1. One week.
2. Seventy years.
3. All of childhood.
4. From three to five years.
5. The epidemic lasted here over twelve months, and though the greatest mortality was in the month of May, the cooler the weather was in summer the greater the mortality.
6. Cool, damp weather unfavorable.
7. Cold weather, more fatality.
8. Badly ventilated apartments always show bad results.
9. Low-lying locations had greatest fatality.

10. Diphtheria appeared here when scarlet fever commenced to decline.
11. Not much experience,—no record, 107 perhaps.
12. Nephritis, suppression of urine, dropsical effusion, abscesses about the neck, purulent discharge from ears, enlarged tonsils.
13. No autopsies.
14. None.
15. It was the means of spreading the disease in many observed cases.
16. About one week.
17. Can not say.
18. Though atmospheric conveyance, by the well breathing air poisoned by the breath and exhalations from the sick.
19. May last for years in clothing, in trunks and excluded from atmosphere.
20. The fever in the eruptive stage, but may be communicated from a simple scarlet fever sore throat to the exfoliated dust raised from the carpet by sweeping.
21. Sixth day.
22. So varied I could not give a correct average,—say two weeks.
23. One week.
24. Isolation decidedly.
25. Break up all public assemblies of the people; close all schools; prevent the people from attending funerals, or visiting the sick. Have the nurses and physicians change clothing when leaving a case of scarlet fever.

Now, Doctor, I have answered your questions, perhaps too short, but you will no doubt have lengthy and verbose dissertations enough to satisfy any desire you may have to read on the subject. The fever still prevails here in a more limited way but considerable fatality attends the cases in proportion to the number.

Very truly,

J. W. COMPTON, M. D.

DIPHTHERIA.

BY WILLIAM S. HAYMOND, M. D.,

Indianapolis.

Owing to the frequent prevalence of diphtheria and its fatal ravages, it excites in the public mind a greater amount of terror than any other disease. It is the special fear of every mother rearing a family of children, lest it invades the domestic threshold. In every attack of sore throat, of whatever nature, a dread is entertained that it is diphtheria.

This fatal disorder is more prevalent of late years, in this country, than in earlier times, but the existence of the disease in different parts of the world in remote ages can scarcely be doubted. It is said that Hippocrates and Homer had some knowledge of it, but of its real nature they perhaps entertained only vague ideas.

Aretæus wrote a lucid description of the disease nearly nineteen centuries ago, and appears to have been the first who comprehended some of its distinctive characteristics.

The disease is said to have invaded Greece and Rome and other eastern countries, at an early day. It has from time to time spread epidemically over Europe, and has become the dreaded scourge of all civilized countries. It prevailed as an epidemic in America in 1771, and appeared at different times subsequently in various localities, committing more or less devastation. During the last thirty or forty years it has become of frequent occurrence in nearly all well settled sections of the United States.

Diphtheria has received different appellations in different countries. In early times it was called *Malum Egyptiacum*, or Egyptian disorder. It was for a long time confounded with other affections of the throat, and considered only as a malignant variety of such disorders, as malignant sore throat, epidemic croup, suffocative angina, putrid sore throat, etc.

This confusion of names continued until about half a century ago, when Brettonneau applied to the disorder, the term *diphtherite*, from a Greek word, signifying skin or membrane, and hence the modern name diphtheria.

The formation of false membrane about the throat, tonsils and larynx, constitutes the chief local distinction between diphtheria and all other throat affections, except membranous croup. Brettonneau made no distinction

between these disorders, and they were considered by the medical profession for a long time as only one disease, which was local in character and produced by cold or other local causes.

Again some held to the views that diphtheria and croup were the same diseases, with the difference only that the latter was confined to the throat while the former invaded the air passages.

The contagious nature of the diphtheritic product seems now to be well established, notwithstanding the failure of a few early experimenters to induce the disorder by inoculation and the application of the diphtheritic matter to the throats of sound persons.

The cases are numerous where physicians and nurses have lost their lives by accidentally inhaling matter coughed up by patients suffering from the disease, and also from attempts to clear tracheotomy tubes by suction or blowing, and in a number of other ways. The disorder has been repeatedly induced in rabbits and other animals by inoculation of the diphtheritic matter, and in innumerable instances it has attacked blistered surfaces, wounds, abrasions of the skin and open sores. The evidence on this subject has become so cumulative that doubt can no longer exist in regard to the contagious nature of the diphtheritic product.

It seems now to be conceded that the infection may be communicated directly from the exhalations of the afflicted by the direct application of the diphtheritic matter and through the air that surrounds the patient, in the same manner that small-pox and other infectious diseases are communicated.

Diphtheria attacks, most frequently, children, from the ages of two to ten years, and it is during this early period of life that its dangers are most to be feared. The susceptibility, as well as severity of attack, diminishes with age.

If we accept the results of the most recent investigations in regard to the pathology of diphtheria, we must consider it a disease of a parasitical nature. The diphtheritic membrane, as well as the structures in contact with it, and even the blood, are found to contain a species of vegetable organisms known as bacteria, the principal variety of which has received the name of *micrococcus*. This important discovery establishes a broad line of distinction between diphtheria and membranous croup, as bacteria are never found in the croupal product. Another clear distinction between the two disorders is, that croup always begins and ends as a local affection, while diphtheria, in its general course, and especially in its closing stages, is always attended with well marked constitutional phenomena.

Diphtheria generally attacks at first mucous membranes exposed to the air, as those of the mouth, pharynx, nose and larynx. It may appear in its

usual form of a whitish or ash-colored exudation on any abraded surface of the body, wound, open ulcer or excoriation of the skin. As the disorder usually manifests itself on those portions of mucous membranes over which the air continually passes in respiration, it is reasonable to conclude that the germ, or poison, is first located at the point of contact, and that the disease at its incipency is local in character. The constriction of the air passages at the opening of the pharynx, by which the germs are brought to a focus, seems to lend additional strength to this view. It is also probable in some cases that the poison may fail to localize itself about the throat, and yet find a lodgment in the bronchial passages, and thus present the character of a constitutional affection before the appearance of local symptoms. It is also possible that the germs that produce the disorder may be conveyed to the mucous membranes of the intestinal canal by fluids or articles of diet impregnated with the same, and there become localized, and from the affected part become absorbed and set up general disturbance.

According to the pathological views presented, diphtheria has a local origin, and the constitutional involvement that usually takes place is a secondary result.

According to the observations of Oertel, diphtheria always fixes itself at the point of inoculation, and radiates from that place through the whole body, or in other words, the constitutional symptoms are the result of absorption from the local point.

After the introduction of the poison, or its localization on the mucous surface of the throat, a brief period of incubation passes, before the appearance of the usual symptoms of the disease. This period of latency is usually two or three or more days. After successful inoculation, the grayish-white discoloration known as the diphtheritic deposit or membrane is often seen in twelve to twenty-four hours. This formation contains the spores of the parasitical organism or *micrococcus*, the essential cause of the disease.

Diphtheria has appeared in all climates, though its prevalence in tropical countries is much less than in temperate or northern latitudes. Season, soil and locality, heat, cold and moisture, exert but little influence as modifying causes. Its first appearance is usually sudden and spontaneous, and, when once established, its contagious nature is prone to be manifested. Diphtheria is ranked among the zymotic disorders, and its production is due to a specific germ poison.

J. Braxton Hicks asserts that "it matters little whether we believe in the living germ theory or in floating poison; but that which attacks the patient has a material existence and is capable of being diffused, *driven away* or *destroyed* seems completely proved."

It was formerly strongly maintained that the generic poison of diphtheria was due to some peculiar constitution of the atmosphere; that the germs or entities in the air were ever ready to take effect when accidentally inhaled or wafted by currents of wind in contact with the mucous surfaces or wounds. If this doctrine is correct, and the poison exists and acts independently of all local influences, no sanitary measures or precautions could prevent the occasional occurrence of the disorder. It is more rational to suppose the poison is of local origin, and comes from certain chemical changes in the elements that immediately surround the patient, which may be influenced or awakened to activity by certain conditions of the atmosphere, as hygrometrical, barometrical, thermometrical and electrical.

That diphtheria is often caused by those banes of civilization, privy vaults, cesspools and foul, ill-ventilated cellars, and the decomposing vegetable and animal product contained therein, there seems little reason to doubt. The decomposition and putrefaction of animal and vegetable matter, at all seasons of the year, in foul cellars, give rise to the production of spores, which throw off in countless numbers their sporangia. These sporangia find in the blood and tissues of the human system, under certain favorable circumstances, a congenial soil for their germination. These invisible agents play the most important part in the production of some of the most frequent and destructive disorders that invade the human system. Remedial agents, in a large proportion of cases, are ineffectual in controlling the maladies engendered. Prevention, however, is always a resource that we can command, and is far more potent in saving life than all the remedies of the pharmacopea.

In opposition to the atmospheric theory of diphtheria, it can be shown that persons living and sleeping out of doors in the open air are seldom or never attacked with diphtheria, and on this assumption we have an explanation of the infrequency of the disorder in tropical countries, where outdoor life is almost universal. Among the local causes that engender diphtheria or contribute to its production, there is none so potent as the foul air of sleeping apartments, or ill-ventilated school-rooms, where children are crowded together, and breathe over and over again de-vitalized air, poisoned with nitrogen and carbonic acid gases and the exhalations from their own bodies. Air greatly deficient in oxygen is always a prolific source of disease. In close sleeping and even living apartments of buildings there is often not only a woful deficiency of oxygen in the air inhaled, but also a vast increase in the poisonous gases just named. The unwholesome properties of the confined air are likely to exist in a greater degree in cold weather than in the warm months of the year, for the reason that all the channels for the

ingress of pure air, with its life-sustaining oxygen, are too frequently kept closed for weeks at a time to keep out the cold, and thus, through neglect of ventilation, or from disregard of the facilities essential to the proper air supply of buildings and sleeping apartments and the over-crowding of the same, disease, with its silent step, steals in and exacts a fearful penalty.

We have known all the children of a family, six in number, who slept in a small room where the ventilation was totally deficient, attacked with diphtheria in a malignant form when there was not another case of the disease within a radius of ten miles, or so far as could be learned, within the county. Under such circumstances we can account for the appearance of diphtheria in the midst of winter when other sources of contamination are locked up in ice. Thus both inside and outside of dwellings there may be causes for the production of the disease, and to secure immunity at all seasons of the year care must be taken to obtain a constant supply of pure air in dwellings as well as due attention to all the sources around the premises that may breed pestilence.

We are prone to attribute the origin of zymotic diseases to remote causes or regard them as special visitations when we are living in disregard of the laws of health and evoking the subtle agencies of destruction that ripen under our roofs and around our dwellings.

Though science may not yet have penetrated the arcana of all the mysteries that pertain to this class of diseases, yet it has revealed much in regard to the sources and exciting causes, and it is high time that families and communities should utilize the knowledge that has been furnished for their protection.

Among the numerous remedies and vaunted specifics for diphtheria, there are very few, if any, that are reliable in malignant cases. The degree of poisoning and rapid progress of the disorder are often too great to be overcome by the feeble and slow action of medicines.

A close observance of the laws of health, with the exercise of sufficient care to secure a constant supply of pure air in dwellings, water free from all organic impurities and the abatement of all domestic nuisances around the premises, would do more in conserving human health and happiness than all medical means.

The study of the laws of health and the means of preventing disease should be placed in the front rank of useful knowledge, and no education should be regarded complete that does not embrace it.

HUMAN LONGEVITY ;
OR
AN INQUIRY INTO THE POSSIBILITIES OF HUMAN LIFE, AND
THE LAWS GOVERNING IT.

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In an age when eternal interests are made to hinge on the improvement of time, development of head and culture of heart, how to reach up to, or even past, the age of three-score and ten years, is a question of vital importance. Life never was more valuable than now. Opportunities for doing good are multiplying. Each age becomes more responsible than the past. More of real progress is crowded into a half decade of years, from 1875 to 1880, than was in a century ten centuries ago. How to have and enjoy a long and happy life of usefulness is a question of more than momentary interest.

The average duration of human life among civilized races is at present about thirty-three years, while among the uncivilized, ignorant and barbarous, the meager data we possess shows that it is much less. The average age of the human family should be seventy years. Between the actual generation of thirty-three years and the possible generation of seventy years is thirty-seven years of lost life—years of strong, vigorous, intelligent, working life, wherein should be produced material wealth, advancement of science, art and culture, and the preparation of the heart for an eternal advancement when this life is over. How to save these thirty-seven now wasted years, and utilize them for man's good and God's glory, is the object of this paper.

"The attainment of age is constantly promised as a blessing" in the Bible. "Thou shalt go to thy fathers in peace; thou shalt be buried in a good old age." (Gen. xv, 15.)

Communities are represented as highly favored in which old people abound. "There shall be no more thence an infant of days, nor an old man that hath not filled his days; for the child shall die an hundred years old; but the sinner being an hundred years shall be accursed. (Isaiah lxxv, 20.)

Premature death is the severest calamity that can befall individuals or families. In I Samuel, ii, 32, is a prophetic denunciation against Eli and his house for their abominations. "There shall not be an old man in thine house forever, * * * and all the increase of thine house shall die in the flower of their age."

There are advantages in long life that have been observed from the earlier ages of the world. The aged are supposed to excel in judgment and understanding from careful study and long observation. Said the perfect man of Uz, "With us are both the gray-headed and the very aged men." (Job xv, 10.)

The science of vital and social statistics is one of recent origin, but is intensely interesting, in that it furnishes an almost inexhaustible fund of information concerning man and his habits, and the influence of culture, food, habitation, morals and religion upon life. These show that the age of man may be increased far beyond its present actual standard by temperance, morality and religion.

LONGEVITY DEFINED.

Human longevity is the length of time during which life is exhibited in any one or more human beings. The period of life commences with birth, and terminates with physical death. In some cases the distance between these two points is very short, comprising only days, or hours, while in others it is drawn out to great length.

"Specific longevity" is the average longevity of all the individuals born into the world. To determine this, the united lives must be divided by the number of lives. To obtain the specific longevity accurately, the lives of infants, children, youths, and the aged, must be considered. Specific longevity is the foundation of "expectation of life at birth."

Potential longevity is the limit of life attained by the greatest individual longevity, as representing the possibilities of the race. It may be the possibilities of long or short life as based upon the facts of birth, family, care, culture and constitution. Methuselah, dying at nine hundred and sixty-nine years, represents the possible longevity of the antediluvians, while from one hundred years to one hundred and fifteen years, represents the possibilities of the nineteenth century.

"Comparative longevity" is a comparison made between plants, animals and men, in their duration of life, laws of growth, and circumstances—whether favorable or unfavorable—for perfect development.

Human longevity is not governed by the laws developed in comparative longevity. The results obtained from such comparison must be erroneous, for man, by his superior intellect, is capable of protecting and defending

himself against enemies and resisting the encroachments of disease, while other animals are destitute of such power. Man, "whilst he grows feebler in limb, unproductive as a laborer, impotent as a warrior, in all such regards a mere burden on the species, yet the knowledge and experience stored in his great brain is of use to his youngest fellow-men, and age is for that reason respected." The animal can not communicate intelligence from one generation to another; can not know how to avoid dangers; can not employ remedies for disease; can not add a day to existence. It is true, the pulsations of the heart, the inspiration of the lungs, and the chemical action of the air upon blood, and the action of the viscera in man and animals may be alike, still, the one possesses "intelligence, power, knowledge, and cast of thought" which largely differ from the other, and give advantages which can not be estimated.

"Man exists in the most diverse conditions, not only in distant lands and varied climates, but even in the same city in conditions so diverse, that were any other organism known to be submitted to an equally great range of external agencies, even the most developed, it must either perish, or, if gradually introduced to the change, must so completely modify its structure as to become a new and distinct species. Man may be said to make his own conditions by his brain, or through it all conditions may be said to be comparatively uniform. Originating in the East, in a warm but not a tropical climate, feeding on rich and abundant fruits, he has yet gradually spread over the whole world, and does not show any material modifications of structure—no modification so great as to prevent interbreeding. When circumstances forced him to cold countries, his intelligence made him light a fire, and build a house, and cover himself with the skins of other and inferior animals, which he entrapped by cunning, and whose roasted flesh served him as a substitute for the failing fruits. As necessities arose he learned to build boats. Skill of all kinds became his through his brain, and his vast knowledge was gradually acquired and handed down from generation to generation, and passed from man to man by means of speech, which greatly grew more perfect." (Comparative Longevity, pp. 89-90.) Upon the whole, comparative longevity does not furnish anything very valuable in the treatment of human longevity.

LIFE AND DEATH.

Life and death, two inexplicable mysteries, present themselves at the outset of our being. They are like great antagonists. Life is the vigorous, healthful performance of the organs of the human body under the stimulus of a vital force, created and bestowed by God, the author. Death is the destruction of this vital force, and the stopping of the organs of the body at

the point just arrived at; just as in a watch, the chain and spring are the vital force, and when these are broken the watch stops at the moment the hands had reached. Death is the necessary and total cessation of all the functions of the human organism. It occurs naturally, or in old age, when the vital force is all expended, or it occurs unnaturally, at any point, before the vital force has been entirely expended, as a result of some breaking down or crushing of a vital organ. The first is *Death from Old Age*; the second is *Death Accidental, or violent*.

Old age death occurs at different times in various individuals, according to "numerous appreciable circumstances," as constitution, habits of life, locality, etc.

Accidental, or violent death, is "the supervention of some accidental organic lesion, which arrests the vital movements before they would cease of themselves" in death from old age. Such organic lesion results from the ravages of disease, straining and breaking of some one or more vital parts by any unnatural or undue strain, and by those fortuitous circumstances called accidents.

It is this kind of death that reduces the general average of longevity, and this death comes because some of the laws of life and health have been violated by the person or parents, for which God's penalties surely follow. Such a death is frequently called a stroke of Providence, or a Providential occurrence. It is a Providence, in that a law was made, with penalty affixed, and when a human being violated the law, God sent the penalty.

In accidental death the individual may be in full possession of all his faculties, mental, moral and physical, "to all appearance, in the most favorable condition for the prolongation of life, and his death, instead of being natural and unperceived in its approaches by the individual himself, is usually forced and violent." In all accidental deaths there is an interruption of the circulation, the poisoning of respiration or the congestion of the encephalon.

The vital force, called some times vital principle and vital flame, is a "principle which, in association with matter, as in organized bodies, controls its manifestations and properties," and is probably dominant in the nervous system and radiates from nerve centers. When there is a *shock* to the person, there is "a disturbance of the functions of the circulatory, respiratory and nervous systems, the harmony of action of the great organs of the body becoming deranged." It sinks into immediate death, or rallying, may linger for a time, hovering on the boundary line between life and death, at last to fall a victim, or rallying entirely, may, after a time, permanently recover. Usually a shock tells upon the blood at first, and travels thence to all parts of the system. When one or a few of the nerve centers only are shocked, vital

force is impaired, though death does not supervene; the body in some of its parts is paralyzed; the sensation may be wholly gone in these parts; the vital force becoming feeble, life currents run low; the victim is dying by inches. When these centers of vital force are all attacked, or the majority of them, death comes quickly.

The "vital shocks" which crushes out vital force may be sudden and instantaneous in its disastrous results. It may be of such a character at other times as to produce its effects gradually, but not less surely. The "vital shock" may not have an intensity sufficient at any one time to produce instantaneous death, but the accumulations of these shocks do finally bring death. The continued dropping wears away the stone. It is this accumulation of lesser shocks that more certainly reduces human longevity than the immediate and overwhelming shocks.

The "vital shock" in excesses, licentiousness, debauches, midnight revelings, intoxication, anger, hatred, strife and their kind is that which kills slowly, but early and surely.

In 1869 the opportunity was presented for examining a case in illustration of the effects of an accumulated shock, in the person of a gentleman at Greensburgh, Ind. He had spent several years in a round of dissipation and unnatural excesses. His constitution was naturally strong and health firm. Continued intemperance and other impurities had undermined his constitution; there was an accumulation of vital shocks. By trade he was a tinner, and at no time was necessarily exposed by his occupation to injury more than other men.

Paralysis attacked his left thumb. In a few days it had extended to the left forefinger; next to the other fingers; then the hand to the wrist. It gradually crept up the arm to the elbow; then to the shoulder. When I first noticed his affliction it had reached the shoulder. The whole arm and hand was completely paralyzed, and scarcely a trace of sensation remained. The deadly Nemesis seized his left foot in the great toe, and followed much the same course as in the hand and arm, until, in the course of two and a half months, he was compelled to remain at home. I visited him frequently during this time, and watched the progress of the disease with great interest.

In a few days the thumb of the right hand was attacked, and very much the same course was followed as in the paralysis of the left side. In about five and a half months from the first appearance of paralysis he was so paralyzed that he could only roll the eyes in their sockets, and breathe with short and difficult inspirations. The pulse was slow and feeble; skin cold and dry; the mind almost gone. The last few hours it was sometimes a question whether he lived or not. Thus the nervous centers were locked

up, or deprived of power, until, crushed, poisoned, martyred by a life of intemperance and kindred vices, he died at twenty-eight years of age, whereas he ought to have lived to be seventy years old.

The nervous system is the grand avenue for the insidious approach of disease. Having once entered this avenue, disease then has three principle methods of accomplishing its work—death.

1. Death beginning at the heart. It may occur from wound of the heart, or great vessels, or an aneurism. "The heart is struck with death," and its functions cease.

2. Death beginning at the brain. In this case, as in apoplexy, paralysis, etc., the brain fails to furnish its wonted stimulus to the vital organs, and they cease to perform their functions as soon as the impetus of the last quantum of nervous stimulant has expended itself.

3. Death beginning in the lungs. In this the blood is irritated, the well of life corrupted, the exhalations of the lungs, that in a healthy person are thrown out in expiration, are thrown back on the system. The poisoning, corrupting process continues until the brain, heart and capillaries, being enfeebled, cease to perform their functions.

ILLUSTRATION.

In looking around for an illustration of life and longevity, I have thought that a railway of a hundred miles in length, and locomotives placed thereon, represent the stages of life and human longevity quite perfectly.

A locomotive, in proper condition and fired up, is placed on the track at one end of the line; the engineer and firemen are in their places; the throttle is opened, the quickening steam pulsates through its tubes and valves, and the ponderous engine moves off with speed accelerated. At proper intervals the fire is replenished and the water renewed in the boiler, and a regular speed is maintained. Mile after mile is passed over in its onward flight, until at last the terminus is approached. Now the fire is allowed to go down, but still she has headway enough to carry her on just to the end of the hundred miles, when her wheels stand still in their revolutions. This is painless death in old age.

Another locomotive starts under similar favorable circumstances, but every now and then the throttle is opened too wide, and the engine dashes forward like a frightened deer, to be followed by a strain that weakens and deranges the machinery, and before fifty miles are passed the axles are heated, a nut is gone, a bolt broken, and the engine, racked and worn, is rendered worthless. It was once "a thing of beauty," and ought to have been "a joy" to the end of its route, instead of a wrecked and shapeless mass. Men

call this accident or a providence. It really is the result of carelessness and criminal inattention to, or ignorance of, the laws of matter and force. This is death in middle life.

Another locomotive is fired up and ready to start. The fireman puts in the fuel for one good, strong fire; the engineer opens the valve and the power is felt. Just as the engine feels the first impulse, both men spring to the ground and leave the locomotive to dash on alone. For a few miles she holds on well and strongly, dashing like a thing of life through tunnel and deep-cut, over high trestle and air-hung bridges, across plain and field. But the fire burns low, the steam is expended, the force is gone, and the wheels revolve slower and slower, until, in hushed silence, they stop, and all is dead at the end of twelve miles. The youth is dead.

Under a fourth locomotive a fire of shavings and light kindling is built, and steam raised quickly, to fall as quickly. This locomotive stops before a mile has been passed. The force that ought to have been sufficient to carry it a hundred miles is expended at one mile. Thus infancy ceases to exist. The poet would say: "The flower of glory was nipped in the bud of promise." Fact says: "The child died before its time."

In the shop is another locomotive, as well built as the first. It is perfect in its organism. The shavings and kindling are placed under the boiler, and all things are ready to develop the latent power. The match is applied. The water quickens. The promise is good, but just then some fiendish hand, or untoward accident reaches into the furnace and snatches thence fire and wood. The locomotive feels no impulse of power. It dies before it lives. The unborn infant shall never see the light or feel the vigor of life.

These locomotives were all built and endowed alike, and ought to have continued to old age, but known, and more or less flagrant violations of known laws of matter and power, cut short the extent of their usefulness.

So with our lives. They ought to continue as long as God, in His word, allows,—to "three score and ten," and beyond. Almost a countless throng die in infancy—many fall in early youth. A large part of the remaining people die in middle life, while a few reach on out to sixty, seventy, or eighty years. The years that one dies before reaching seventy years of age, are so many *lost years*. They can never be recovered. There is no means for compensating for the loss; either the person who loses them, or the community which needs them, nor can we know at present, that even in heaven, though the early deceased enjoy its delights, they will ever receive a compensation for the years of life and probation, not enjoyed in time. God designed in man, before entering heaven, a perfectness; a maturity of mind and soul, and a ripeness of experience which he can not have short of

the life of sixty or seventy years. The years lost from age are a loss to maturity, to family, to the State, to the world.

VITAL FORCE.

Vital force is that power or strength of life, that increment of power given and belonging to a human being, which enables the person to resist the influences of disease, miasma, the shocks of accident and any mental or physical depression whatever. It is the rebound of a ball thrown to the floor which, springing away, recovers its original form. It is resisting power—an enduring power—the life and vitality spring in the human system.

Vital force is a "mysterious phenomena which characterizes living bodies and distinguishes them by such broad demarkations from the dead," which has been a theme of anxious inquiry in all ages. Hippocrates called it the "*φύδις* and *ενορμως*," "the essence, the inborn quality, property or constitution," and also the "fixed character." Aristotle called it "the animating or motive and generative principle;" Van Nelmont, "the archarus"—perhaps the first cause of origin remaining in or communicated to the person. Stahl calls vital force the "anima," or some principle connected with breath that is the stamina; Berther and Hunter, "vital principle." At present this subtle, unexplained something is called "vital force."

If five persons start on a cold, foggy morning to ride ten or twenty miles, equally well protected, it will be found that possibly two will resist the debilitating influence entirely. A third may only experience a chilliness, from which he recovers in a few hours with no evil consequences following. A fourth is attacked with a cold; bronchitis or pleurisy follow, and possibly death. A fifth will have a chill, fever, and be followed by a continued fever, which may culminate in typhus or typhoid, to end in recovery or collapse and death. The reason why these men were variously affected depends upon the difference in vital force possessed by each. This difference depends upon two things; first, the amount of original vital force received from parents, and second, the abuse of self and waste of, or the harboring of vital force in adult years.

Vital force is given to us in our conception and birth, and is strengthened in early growth. Enough is originally designed to be given to carry us through the whole period of a long and active life, if it be properly employed. If one or both parents have destroyed their own vital force in any degree, and thereby corrupted the fountain of life, their offspring will enter the world with a weakened constitution and a vitiated vital force. The feeble, puny, consumptive infant, that is bone and flesh of its parents' bone and flesh, is also wasted vital force of their wasted vital force. Like produces like.

There is no natural reason why any child should die as a child. Give the children equal vital force, and they will live an equal time. God intended a long life. If a child dies a child, it must be from accident, or lack of vital force, and this lack is caused by a course of sin, or some error in life.

Our vital force is our constitution. It is that upon which is predicated strong adult powers, and a green old age. The probability of life to be long or short may be determined by the quantity of inherited strength, and the care taken of what is inherited.

LONGEVITY AND VITAL FORCE.

The problem of human longevity is one of the most practical that can engage the attention of the political economist. Longevity, other things being equal, depends upon the quantity of the vital force possessed and the care taken to expend it properly. The *gift* of vital force depends upon the wisdom and goodness of God. The *purity* of vital force depends largely upon the parents who have given us being. The *expenditure* of vital force is in our own hands, and for this shall we be held accountable.

This life force is used up in carousings, midnight revelry, drunkenness, excesses of all forms and character, exposures to extremes of cold and heat, to malarious influences and sudden outbursts of anger. Anything that tends to make unusual and unreasonable drafts on the constitution or vital force tends to shorten our days. Franklin wisely said: "The indiscretions of youth are drafts to be paid at mature age."

The observations of a writer on "Excitement and short life" are valuable: "The deadliest foe to man's longevity is an unnatural and unreasonable excitement. Every man is born with a certain stock of vitality, which can not be increased, but which may be husbanded or expended rapidly, as he deems best. Within certain limits he has his choice to live fast or slow, to live abstemiously or intensely, to draw his little amount of life over a large space, or condense it into a narrow one; but when his stock is exhausted he has no more. He who lives abstemiously, who avoids all stimulants, takes light exercise, never overtasks himself, indulges no exhausting passions, feeds his mind and heart on no exciting material, has no debilitating pleasure, lets nothing ruffle his temper, keeps his "accounts with God and man duly squared up," is sure, barring accidents, to open out his life to the longest limit which it is possible to attain; while he who intensely feeds on high-seasoned food, whether material or mental, fatigues his body and brain by hard labor, exposes himself to inflammatory disease, seeks continual excitement, gives loose rein to his passions, frets at every trouble, and enjoys little

repose, is burning the candle at both ends, and is sure to shorten his days." (Christian Advocate, May 21, 1874.)

LONGEVITY AND HABIT.

Longevity depends upon the formation and continuance of good habits, sobriety, morality and religion. There are means for retaining and preserving the vital force to the longest possible period. They are quiet in their nature, moderate in their practices, hopeful in their tendencies, and truthful in disposition. These are parts of religion, and there is no state or condition so conducive to mental and physical improvement as a state of pure morality and holy religion. This is as God intended. "Bloody and deceitful men shall not live out half their days." (Ps. lv: 23.) "The fear of the Lord longeth days; but the years of the wicked shall be shortened." (Prov. x: 27.) "Be not overmuch wicked. . . . Why shouldst thou die before thy time?" (Eccl. vii: 17.)

Length of days, as the right of the pure, is according to God's word: "With long life will I satisfy him." (Ps. xci: 16.) "My son, forget not my law; but let thine heart keep my commandments; for length of days, and long life, and peace shall they add to thee." (Prov. iii: 1, 2) "Godliness is profitable unto all things, having the promise of the life that now is," etc. (Paul.)

Lord Bacon, in his "History of Life and Death," written in 1590, has this passage: "A life led in religion, and in holy exercises, seemeth to conduce to long life. There are in this kind of life the things, leisure, admiration and contemplation of heavenly things, joys not sensual, noble hopes, wholesome fears, sweet sorrows. Lastly, continual renovations by observances, penances, expiations, all which are very powerful to the prolongation of life." (Bacon's Works, vol. 3, p. 487.)

SOME THINGS NOT NECESSARILY INFLUENCING LONGEVITY.

What has had and probably will have most influence upon longevity? It is not latitude or longitude, for in all regions men and women have grown old and endured the wintry storms of life beyond the Bible age. Longevity does not depend upon stature—whether one is short or tall. Longevity does not depend upon size—large or small—for people of both classes have lived to an age almost marvelous. There are lean and sinewy people who have lived until it seemed as if they were dried up, shriveled with age, and ready to be blown away with a puff of wind; and there are many fat and well-favored people who nourish well, and enjoy all life's blessings, who reach to four-score years and show few signs of decay.

Longevity does not depend upon color. There are instances of great age among all races and colors. The African, with his black skin, the Chinese, with his yellow hue, the short and wiry Malay, and the Caucasian, with the snowy white, furnish multiplied instances of those who have seen three-score and ten years, while many have lived a hundred years.

These are not the causes of short or long life. They have nothing in them to produce heavy bills of mortality at early ages. The cause or causes must be found in some other direction.

PARENTAL TAINT OR PURITY IN RELATION TO LONGEVITY.

It is relevant to inquire, in any case under consideration, concerning the parents—have they been sober and temperate, or reckless and intemperate? It really matters but little whether parents have died early or lived long. The question is, what were their habits, and what taint, if any, have they conveyed to their offspring. Parents having a moral or physical taint convey them to a greater or less degree to their children. A parent of a shortened, wasted vital force will bring into the world a child of like feeble constitution and vitiated powers. Parents of strong and vigorous constitutions bear children like themselves. They are robust, well-formed, full of vital force, and are undiseased. It is true there are feeble children occasionally born of what seem to be vigorous parents, but in these cases, could we know the whole truth, it would be found that there had been some violation of natural law, yielding its results.

The fact is not problematical that midnight debauchery, bacchanalian revelry, and unnatural excitement at the gaming table, tell in no measured terms upon the vitality and future usefulness, and length of life of the offspring. The hard study, the culture of head and heart, the noble aspirations, the high minded resolves, tell no less powerfully in producing their kind.

Take a group of children from the families of clergymen, physicians, educators, inventors, artists, and of aspiring and intelligent agriculturalists. Place these on one hand. Take another group of the children of the intemperate, the profane, the vulgar, the debauched, the depraved—those who have no noble aspiring, who herd in cellars or crowd the hovel and garret, or live in luxury. Place these over against the first group. Each group has its distinctive health, life, and moral marks. Each possesses their own character of vital force, dependent upon the parents.

In the frank countenance, the bright sparkling eye, the clear looks, the erect form and plump appearance, may be seen the parental stamp of nature's nobility and a vigorous vital force, with probabilities of a life of three score and ten.

In the pinched cheeks, bleary eye, flabby lip, unkempt head, untidy appearance, with a restless, disturbed look and waxey hue, with many who this early have the tobaccoed character and alcohol taste, may be seen, also, the parental stamp of God's curse for laws violated, and an assurance of an early death and a cold grave. Time after time it is observed in this department of human experience, that "the fathers have eaten a sour grape, and the children's teeth are set on edge,"—(Jer. xxxi : 29). Experience demonstrates that the sins of the father are visited upon the children.

The subject of hereditary transmissions is one that has agitated the scientific world for years past, and is likely to in years to come. The party who takes the extreme view, that heredity is the solution of all the phenomena of life, and peculiarities of disposition, and thereby shift all responsibility from child to parent, until there is existing no responsibility, evidently mistake the meaning of God, who will bring us into judgment for every idle word and evil deed. On the other hand, those who ignore the plain teachings of nature, and deny all hereditary transmissions, do not read some of the plainest lessons of God written in characters of light and shade upon the human being. There certainly hereditary transmissions of evil and of good, of noble aspirings and of groveling tastes.

PARENTAL CARE CONDUCTIVE TO LONGEVITY.

The seeds of disease sown in infancy may be very materially lessened in their growth and disastrous effects by parental care, while the seeds of disease may be stimulated to rapid growth and early maturing by parental carelessness and neglect. Just when there ought to be most careful training there is the greatest carelessness. In youth the vital force is being drawn upon for purposes of physical development and mental culture. If there is an unnatural strain, a mushroom growth, or a hot-house stimulation, the years to come will show how fearfully has been the sin.

This is illustrated by a mother given to fashion and parties, who took her little three-year-old boy to a shop for a suit. Said the mother, "Make it very short sleeves, and very low in the neck, for little Bobby has such white shoulders and rounded breasts, I dearly love to see them, both summer and winter." No wonder she laid little Bobby in a grave at four years of age, and murmured at Providence. Parental neglect killed the child.

There is a war on the innocents in some localities. "The custom of committing infants as soon as born to the care of foster mothers, destroys more lives than sword, famine, and pestilence united." (Dr. Price, p. 151.) In London one half the children born die under three years of age. In Vienna and Stockholm one half die under two years. In Manches-

ter one half die under five years. In Northampton one half die under ten years. "London is a gulf which swallows up an increase equal to near three-fourths of that of Sweden." (Dr. Price, p. 149).

Many a weakly child, with the chances against a long life, has been cared for and nursed by parents who fully understood the necessity for vigilance and tenderness, until many hereditary tendencies and acquired ills were either wholly eradicated or so limited in their effects as to permit the child to grow up to useful and quite strong manhood.

So important is parental care in extending life, that it may be said, even with the present disabilities of life, with a judicious and intelligent care, from one-third to one-half the children now dying under five years of age might be saved to maturity.

CULTURE CONDUCTIVE TO LONGEVITY.

The culture of the whole man—body, mind and soul—in every way conduces to longevity. A sound mind in a sound body is one of the choicest legacies that can be left to a human being. The continuance of these in a state of soundness and perfectness depends very largely upon an acquaintance with their powers and qualities and their culture. True culture is the antagonist of disease. The tendency of disease is to periodicity. In such an event, the physician administers a remedy that will act so powerfully upon the nervous system as to raise it above the plane it has heretofore occupied. When the period for the return of the chill or fever comes, it finds the system out of its reach, being raised to a higher plane, and hence, having nothing to work upon, it must soon cease to act. So is it with the wonder of creation—man. When a man is cultured, he is lifted out of his plane of ignorance, and ceases to be liable to many ailments of which the ignorant are the heir. In every respect culture—polish—is an ally to human longevity. The relation of polish, and power, and longevity is that of harmonious elements. It is a fact long since demonstrated, that finished, polished and well-kept machinery is far more serviceable than unpolished and carelessly finished. Culture and polish of the human being conduce to power, and power leads to longevity.

In a farm yard, not long since, might have been seen a mowing machine, hay rake and plows and harness piled up against the fence, exposed to rains and snows, frosts and winds. What little of beauty they once possessed was gone. The metals were rusting; the wood was rotting; the mortises were gaping, cracks were coming, and general dilapidation reigned. They had been in use one or two seasons, and were scarcely fit to be used another. Their total longevity was only three years, whereas, had the polish of the metal and wood been ordinarily cared for, their longevity ought to have

been ten years of good and remunerative service. The human form and its immortal mind and soul are oftentimes uncared for. The body is battered, bruised and exposed; the mind is suffered to become injured by contact with errors as pestilential as the plague; the soul becomes loathsome by contact with vice. Under these accumulated neglects and injuries it ceases to preserve its powers, and yields to death, a victim to baseness, before thirty years of age, when it had vital, mental and moral force originally enough to have carried it through to seventy years.

PRACTICES OF RELIGION AND VIRTUE CONDUCTIVE TO LONGEVITY.

A medical writer says that it is a curious fact "that every thing laid down in the sacred volumes of the Old and New Testament as vice, is most strongly and strikingly opposed to longevity, and most fully justifies the inspired penman 'that the wicked shall not live out half their days.' On the contrary, all the virtues enjoined and recommended in those sacred books are most strikingly conducive to long life." (Fitch's lectures.)

This fact may be seen by presenting the vices and virtues in sharp contrast. In the first part of the contrast put those things which as vices destroy mind and soul. Behold, anger, jealousy, remorse, hatred, envy, covetousness, revenge, despair, profanity, fraud, fear, thieving, cruelty, discontent, grief, disobedience of parents and infidelity.

In the second part of the contrast put those which as virtues strengthen and ennoble mind and soul. There we see kindness, confidence, peace, love, good will, generosity, forgiveness, hope, reverence, integrity, courage, honesty, compassion, contentment, patience, cheerfulness, resignation.

The first named, or vices, produce excitement of the brain, which tends to apoplexy, fever, inflammations and sudden death. There are well authenticated instances of the bursting of the heart and of blood vessels by sudden and unrestrained fits of anger. Remorse emaciates the system. Fear turns the hair white. Jealousy embitters life at its fountain. Covetousness sells body and soul to satan for gold. Profanity dares the direct judgments of Jehovah. Fraud and thieving expose to unnumbered dangers and accidents. Disobedience to parents has been pronounced amid the terrors of Sinai as directly punishable with shortness of days, and infidelity so cuts loose from all restraint as to court death. Indeed, all vice in any of its forms shortens life.

In the list of virtues there is nothing but conduces to quiet, health and long life. They help to continue the vital force in its purity, and only use what is necessary for the common purposes of a pure life. They "beautifully and sweetly harmonize with all the functions of the system."

Look at vices and excesses specially tearing down and destroying the body and mind, as prodigality, gluttony, indolence and drunkenness. Put in

contrast with these the practices of morality, which tend to build up body and mind and preserve them in vigor to old age, as economy, temperance, industry and sobriety. While prodigality recklessly throws away, and gluttony gorges to distress, and drunkenness shamefully and criminally perverts the blessings of God and destroys the whole man, indolence rusts out the gifts and powers of an immortal being that might shine in an eternal glory. It is not so with the practices of morality. They hold together all the powers, keep in activity all forces, and add days, months and even years to life, until they bring the man to three-score and ten, and oftentimes far beyond.

Take another list of vices and excesses that gather their deadly folds around body, mind and soul, and will not let go forever, as impurity, lust, fornication and adultery. Contrast these with the practices of religion, and are parts of a godly life, as purity, virtue, restraint, chastity.

The vices and excesses slay their thousands annually, and entail diseases and sin upon many more. Hecatombs of victims have been offered on the altar of these degrading vices. A wail of anguish has gone up from these deluded victims, when they have been awakened to a sense of their shame and ruin, enough to startle devils in their infamous orgies and plottings against a deluded humanity. Our Maker has so placed upon all vices his stamp of indignation, that they can not be followed without incurring a penalty terrible to contemplate. However secretly followed, the results are made known to the world. But the practices of humility all tend to raise the man up to God. They preserve vital force, husband the resources of life, and keep all parts of the machinery of life in good condition down to old age. In vice, immorality, and excess is shortness of life and a near end of days. In morality, virtue, and religion will be found length of days.

GEOLOGICAL REPORT.

1879—1880.

GEOLOGICAL REPORT.

In section 9 of the law establishing the Department of Statistics and Geology (approved March 29, 1879,) will be found the following provision: "The act approved March 5, 1869, establishing a separate department of geology, and the acts amendatory thereof, and in conflict herewith, are hereby repealed." The words "and in conflict herewith," as interpreted by the Supreme Court, constitute a retaining clause, and transfer all of the duties heretofore discharged by the State Geologist to the head of the new Bureau, except where a conflict between the old and new law is apparent. The duties thus transferred were "the collection and dissemination of information in relation to geological and other scientific investigations to be made for the promotion of agriculture, mining, the arts and manufactures," and also the collection, proper labeling and arranging of specimens of the ores, coals, building stones, clays, soils, organic remains, etc., of the State of Indiana. The appropriation for the State Geologist, under the act constituting his office, was at first five thousand dollars per annum, and was afterwards increased to eight thousand dollars per annum.

The Bureau of Statistics and Geology received an appropriation which placed at its disposal less than one-half the amount of funds voted to the Department of Geology during the last years of its existence; and under the belief that many of the provisions of the act of 1879 imperatively directed that especial attention be given to statistical matters of grave importance, the Bureau has, to a very considerable extent, devoted its time, funds and resources to statistical research and tabulation. The chief of the Bureau has, however, in addition to the general direction of the affairs of the Department, given as much attention as was practicable to matters pertaining to the geological division, by furnishing information, opinions and advice, written and oral, upon a multitude of subjects, and also making a few field investigations.

Reports of these investigations, which were of course limited by the time and funds at the disposal of the Bureau, are appended, as also some

notes on stone and cement, and descriptions of a few of the mounds of Greene and Knox counties.

Mr. George K. Greene has made a survey of Monroe county, and his report, which is characterized by careful and minute details, gives a good description of the rocky formations of that county.

A "Synopsis of the Molluscou Fauna of Indiana," by Dr. F. Stein, gives the habitat or locality of these interesting natives of our State. His paper comprises the results of years of industrious study and patient research, and will prove to be of great value to students and teachers.

Professor C. A. White, of the Smithsonian Institution, late State Geologist of Iowa, and paleontologist for some of the most important government expeditions, has, without charge, and as a free contribution to science, prepared a clear and able description of Indiana fossils, in the introduction to which he has also given some most important suggestions concerning the value and methods of scientific study. This contribution to our knowledge of Indiana geology will be at once highly appreciated by the one hundred thousand teachers and students of the State who desire information on the subject, but are utterly unable to obtain the rare and high priced reports, through which alone, such information has heretofore been attainable.

Professor White's description of Indiana fossils will save to the students of the State many times the cost of the preparation of this report, and will enable our people to recognize and identify the fossils discovered in their own neighborhood, and in this way determine its geological position. The characteristic fossils of the different groups were selected for comment, so that the report might serve as an elementary effort, at once giving our students a reliable introduction to a knowledge of the rocks of the State, the description of new and rare specimens being left to future reports.

The illustrations of Prof. White's paper are the work of Dr. J. C. McConnell, one of the draughtsmen of the Smithsonian Institution. They are drawn in ink, and engraved by the new photo-engraving process and are of a high order of merit, representing the various fossils with almost mathematical correctness.

EXPENDITURES.

The expenditures for the geological work of the Bureau during the year 1879-1880, have been as follows:

Traveling expenses of Chief of Bureau	\$65 00
Survey of Monroe county, Mr. Greene.....	150 00
Surveys in other districts, Mr. Greene.....	15 00
Drawing figures for Prof. White's paper, Mr. McConnell.....	180 00
Drawing maps, Mr. Morrison.....	20 00

Synopsis of Mollusca, Dr. Stein.....	\$25 00
Increase of cabinet	50 00
Total	<u>\$505 00</u>

THE STATE MUSEUM.

From the report of G. K. Greene (pp. 34-35) it will be seen that specimens belonging to the State, numbering in all 8,912 pieces, were found in the State Museum and transferred by the State Board of Agriculture to the care of the Bureau, pursuant to the decision of the Attorney General. At least one-half of these specimens have been labelled and arranged in cases, at a cost to date of less than \$500. This expense has been defrayed from the balance of the geological funds in the hands of the State Board of Agriculture. The additions made to the State Museum by this Bureau have numbered 11,649 pieces, most of them being rare and perfect specimens. Of these 10,268 were added by purchase and the remainder by collection and donation. The State should, as soon as possible, become possessed of a complete cabinet of specimens of the fossils, rocks, building stones, and other materials of scientific and economic importance which are to be found within its bounds, and such collection should be easily accessible to the citizens of Indiana, and to visitors from other States. No cheaper or more striking exhibit could be made of her vast and varied resources and no more effective invitation or encouragement could be given to new industries for the investment of capital, than by a carefully arranged and neat display of the abundance of valuable materials now comparatively unused, with authoritative statements as to their extent, locality, cost and availability. The Bureau has felt this to be part of its duty, and has engaged in this department of work as far as the scanty means at its disposal permitted.

The experience of former State Geologists has always been that the publication of reliable statements as to the building materials and minerals of Indiana has called into existence mining enterprises, manufactories and railways almost without number, and within the last year this Bureau has been directly instrumental in the sale of Indiana stone, lime, etc, of the value of more than \$100,000, to fill orders which would otherwise have been sent out of the State. Not less important is it that there should be some competent and reliable authority available for citizens to advise with as to mineral enterprises within the boundaries of the State, as is shown by the fact that almost every week some of our citizens are found advocating mining projects which a geologist can readily tell them are wild and useless. A competent Geological Bureau, as has heretofore been proved, can, by preventing unwise speculations save to the individual citizens of the State not less than from \$25,000 to \$50,000 annually.

THE NEEDED APPROPRIATION.

To continue geological surveys in the different counties of the State, and to publish further illustrations of the fossils of Indiana, with expert paleontological descriptions, will require a fair and reasonable appropriation, say from \$5,000 to \$6,000 annually ; and for \$1,000 a year in addition, the State Museum could, in a few years, be made so full and complete as to furnish each of the colleges and universities of the State with a cabinet of characteristic Indiana fossils sufficient for ordinary educational purposes. To insure thorough and efficient work in the Statistical Department (for report of which see pages 16 and 17, and 20 to 26 of preceding report) it will be proper that at least half as much as our sister States have spent should be allotted ; and it is therefore advisable in the opinion of the Chief of the Bureau that the annual appropriation for the next two years should be as follows :

For the Division of Statistics.....	\$6,000 00
“ “ “ “ Geology	5,000 00
For increase of State Museum.....	1,000 00
	<hr/>
Total appropriations.....	\$12,000 00

With such an appropriation the work could be done thoroughly in each department, and Indiana would thus take her stand along side of New York, Massachusetts, Kansas and all of the advanced States of the Union and the world. With less or a meager appropriation the work will fall short, and can not but do injustice to the intelligence and energy of our people, as well as to the grand natural resources of the rich soil and the minerals and building materials so freely given to Indiana.

GEOLOGY OF INDIANA.

The outline geological map of the State, printed herewith, is upon so small a scale that it must be regarded as merely a rough sketch. It shows, however, with reasonable accuracy, the surface exposures of the rocks of the several geological formations. An extended description of each of the general strata with a section illustrating the same might have been advantageously added to the present report, but the time and resources of the Bureau were so limited as to permit of only the following brief statement, embracing a list of the counties in which the several strata are found.

LOWER SILURIAN.

The rocks of the lower silurian age, known as the Hudson river or Cincinnati group, are found in the southeastern division of the State, extending also throughout large areas in Ohio and Kentucky. They are well exposed in the bluffs of the Ohio river, extending west to the mouth of Fourteen-mile creek, in Clark county, and form the surface rocks in the counties of Wayne, Union, Fayette, Franklin, Dearborn, Ohio, and Switzerland. In several of the adjoining counties to the west are exposures of lower silurian in ravines and deep cuts, as on the extreme east side of Clark, Jefferson, Decatur, Rush, and in the northern part of Randolph counties. The rocks of this formation are filled with well-preserved fossils, and in decomposition form a rich and highly productive soil.

UPPER SILURIAN.

Strata of the upper Silurian formation form the general surface rocks of the counties immediately west and northwest of those in the lower Silurian, including Adams, Wells, Washington, Wabash, Miami, part of Cass, Jay, Blackford, Grant, part of Howard, Delaware, Madison, the eastern parts of Tipton and Hamilton, Randolph, Henry, Hancock, Rush, Shelby, Decatur, the eastern part of Marion, Bartholomew, Jennings, Jefferson and the eastern parts of Scott and Clark counties. The upper Silurian strata also extends north and northwest from these counties to the northern boundary of the State, at many points being locally capped by uneroded areas of Devonian age, but the Silurian is so deeply covered with boulder drift as to be rarely seen, and its presence is more known by test bores than by outcrops in the drift district.

Soils derived from the disintegration of rocks of this age are, as a rule, cold, heavy clays, which, when drained, produce good crops of wheat and the grasses.

DEVONIAN FORMATION.

The Devonian rocks are exposed in a narrow band commencing on the south of the central parts of Clark and Floyd counties and extend thence north and west through the counties of Scott, Jackson, Bartholomew, Johnson, Marion, Boone, Clinton and Carroll, with local exposures in Tippecanoe, Cass, White and Jasper. From fossils collected in the drift area to the north and west and from test bores, it is known that Devonian rocks have been more or less eroded, but once covered much of the northern third of the State, and at many points they are still in place.

SUB-CARBONIFEROUS OR MOUNTAIN LIMESTONE.

Rocks of the sub-carboniferous series form the surface strata in a wood belt west of the Devonian and east of the coal measures, and these, for the most part, constitute the rocky exposures of the counties of Harrison, Crawford, Orange, Washington, Lawrence, Brown, Monroe, Owen, Morgan, Putnam, Hendricks, Montgomery, Tippecanoe and Benton. The eastern line of this belt is composed of slates and sandstones of the Knobstone group, while adjoining on the west are the great cavernous limestones of the State, so well exhibited in the southern counties, but which thin out to a few feet at the north. The soil of this district is remarkable for its growth of cereals and grasses.

THE COAL MEASURES.

The rocks of the coal measures are found in the counties of Posey, Vanderburgh, Warrick and Spencer, the western parts of Perry and Crawford, in Gibson, Pike, Dubois, Knox, Daviess, Martin, Sullivan, Greene and Clay, the western part of Owen, and in Vigo, Parke, Vermillion, Fountain and Warren.

It is apparent, therefore, that the lower Silurian, being the oldest rocks brought to the surface, underlie all the more recent rocks which in succession have been deposited during the different ages of the earth's existence. A shaft or bore put down in the western part of Gibson county would pierce in succession all the geological formations of the State, and would show the approximate depth of each to be as follows:

GENERAL SECTION.

Coal Measures.....	725 feet.
Sub-Carboniferous.....	680 "
Devonian.	200 "
Silurian.....	3,000 "
	<hr/>
	4,605.

OOLITIC LIMESTONE.

The excellent and abundant building stones of Indiana have been minutely described and discussed in former reports of the State Geologist, especially in that of Professor Cox, 1878. Demands have, however, been so continually made upon this office for information as to the quality, quantity and uses of the oolitic limestone that a short description, prepared in answer to one of these inquiries, is inserted in this report, as follows:

DEPARTMENT OF STATISTICS AND GEOLOGY,
INDIANAPOLIS, IND., May 13, 1879.

SIR:—In answer to the questions as to the comparative character and quality of the samples of Indiana oolitic limestone submitted for examination, I would say that in structures which, from their extent and use, must be permanent and substantial, such as bridges, court houses, State capitol and other public edifices, the duty imperative on those having direction is to carefully inspect and select such material as will, without the possibility of a doubt, resist the action of climatic conditions, as moisture, heat and cold, and gases existing, or that may hereafter exist, in the atmosphere; also such materials as do not contain within themselves elements which, on exposure, will result in chemical decomposition or disintegration. This duty is absolute, and may not be neglected without disgrace and dishonor, yet it is well known that in many of the most important structures of the world—temples, cathedrals, houses of parliament, State capitol and great bridges—imperfect materials, through ignorance or selfish motives, have been used, and which are now going rapidly to decay, and will require the outlay of large sums of money to repair.

Stones have been used which, fresh from the quarry, presented a good appearance, and were, from mechanical tests alone, believed to be enduring, yet, on exposure for a considerable time, decay and fail, in many cases because the particles are not thoroughly cemented, as in soft sandstones.

Aluminous limestones are generally rigid and without elasticity to compensate for changes of temperature from the extreme heat of summer to the intense cold of winter. In such cases cleavage and cross-fractures, after a few years, break the stone to fragments.

Again, many quarries furnish magnesian limestones of good appearance, and which have been extensively used, but after an exposure of a few years show in spots manifest evidences of decay.

“Where bituminous coals are used the atmosphere becomes charged with sulphurous acid gas, and this is changed to sulphuric acid, which exerts a very marked influence upon magnesian stones by converting the carbonate into sulphate of magnesia (epsom salts), which is readily soluble in water, and is washed out by rains to stain and disfigure and finally destroy the cohesion of the stone. Magnesian limestones vary in their composition as regards the proportions of clay, carbonate of lime and carbonate of magnesia which enter in their composition, and should be carefully and elaborately tested before use.”

The quarry at Bedford, Ind., is on the Oolitic or quarry bed of the St. Louis group of the sub-carboniferous period. Samples tested by Gen. Q. A. Gillmore, U. S. Engineer Corps, gave as its crushing strength 11,750 pounds per square inch; weight of a cubic foot, 146.56 pounds; and ratio of absorption 1 to 28.

An analysis of samples of stone from these quarries, made by Dr. G. M. Levette, chemist of the geological survey of Indiana, gave the following:

Gray or light-colored stone.	
Water expelled at 212° F.....	0.35
Insoluble silicates.....	0.50
Ferric oxide and alumina.....	0.98
Lime.....	54.10
Magnesia.....	0.13
Carbonic acid.....	42.62
Sulphuric acid.....	0.31
Chlorides of alkalies.....	0.40
Combined water.....	0.61
	<hr/>
	100.00

Lime and carbonic acid combined give carbonate of lime 96.60.

As may be readily seen from the above table, this stone is an almost perfectly pure limestone, averaging over 96 per cent. of carbonate of lime, a degree of purity rarely, if ever, surpassed, and equalled by very few of the most famous quarries of the world.

The stone crops out with bold, perpendicular faces, which record the standpoints of streams through the long ages during which they have been engaged in hewing out of solid rock their deep valleys; even back of this the striæ and erosions of the glacial age are seen, dating back to the beginning of quaternary time, supposed by many to have been several hundred thousand years ago. This stone has withstood the elements and their disintegrating action during these long periods, and will fully answer the requirements for permanent structures. The strata are from ten to twenty feet thick, homogeneous and of similar appearance in horizontal or vertical section, comes soft from the quarry, and is easily sawed; but, being tough under the chisel, it may be carved with facility and rapidity into any desired ornamental forms.

Cement should not be used in connection with this stone, in face work, but lime used instead.

This stone may be confidently recommended for the erection of extensive and permanent structures.

JOHN COLLETT.

Extensive beds of stone, similar or identical in quality to the samples described in the foregoing letter, are found and quarried in the counties of Owen, Monroe, Lawrence, Washington, Harrison and Crawford. By means of the lately adopted steam channeller and derricks for quarrying, the facilities for work are greatly enlarged and the labor so much modified that blocks of any size that can be transported by railways are readily obtained so as to be offered at cheap rates. This stone has been used in the construction of many court houses in the State, including that at the State capital, and also in the United States postoffices at Louisville and Indianapolis, in the city hall, Chicago, Ill., and exclusively in the carved capitals and exposed parts of the Illinois State House. The commissioners chosen to superintend the erection of the new State House at Indianapolis, after a series of exhaustive tests and experiments, have selected this stone over all competing specimens from the leading quarries of the United States, as the cheapest and most enduring and also as the least liable to discoloration in a coal smoke atmosphere.

This stone has been used with good effect for interior ornamentation in some of the palatial residences of New York and other eastern cities.

Additional beds of snow white limestone have heretofore been reported, in the counties of Harrison and Crawford, which, when made accessible to Ohio river steamers by tram or railways, will prove a very desirable material for ornamental work, as it is a remarkably pure stone and of excellent quality.

PORTLAND CEMENT.

The ordinary hydraulic lime or Roman cement is made from native rocks, some times from those of a single bed, or else from many layers from different beds, mingled in a kiln.

Portland cement is artificial and is made up of materials from a variety of deposits, which, having been carefully proportioned, are manipulated and burned.

The hydraulic limes of Indiana were considered and described at length in the Geological report of 1878, and an analysis of foreign specimens was given for purposes of comparison. During last year a company was organized at South Bend, which has since been engaged in the manufacture of Portland cement from the gray clays and calcareous marls found along the shores of the ancient lakes of St. Joseph County.

Analyses of the marl and clay used at South Bend and also of the Roman and Portland cements manufactured by this new company are given below as reported by Chemical Assistant John Hurty; the tests for compression being those made officially and carefully, and exhaustively conducted by Mr. F. W. Vogdes, Superintendent of the new State House.

ANALYSIS OF CEMENT CLAY, SOUTH BEND, IND.

Moisture.....	0.575 per cent.
Carbonic acid gas.....	14.500 " "
Silica and insoluble earthy matter.....	59.133 " "
Ferric oxide.....	1.923 " "
Alumina.....	1.333 " "
Magnesia.....	4.130 " "
Chlorides of potassium and sodium.....	0.478 " "
Lime.....	12.208 " "
Organic matter—loss by ignition.....	4.875 " "
	<hr/> 99.155

ANALYSIS OF CEMENT MARL, SOUTH BEND, IND.

Moisture.....	0.250 per cent.
Carbonic acid gas.....	41.900 " "
Silica and insoluble earthy matter.....	0.233 " "
Ferric Oxide.....	0.166 " "
Alumina.....	0.185 " "
Magnesia.....	3.100 " "
Chlorides of potassium and sodium.....	0.301 " "
Lime	48.963 " "
Organic matter—loss by ignition.....	4.350 " "
	<hr/> 99.448

ANALYSIS OF SECOND SPECIMEN OF MARL FROM SOUTH BEND CEMENT WORKS.

Moisture.....	14.779 per cent.
Organic matter (by ignition).....	1.675 " "
Sand.....	3.400 " "
Carbon-di-oxide C. O ₂	35.260 " "
Lime.....	43.250 " "
Magnesia	1.126 " "

Alumina.....	0.207 per cent.
Iron Oxide.....	0.134 “ “
Chlorine	trace.
	<hr/>
	99.831

ANALYSIS OF SOUTH BEND COMPANY’S ROMAN CEMENT.

Moisture.....	0.500 per cent.
Carbonic acid gas.....	4.370 “ “
Silica and insoluble earthy matter	23.400 “ “
Ferric oxide.....	0.498 “ “
Alumina.....	15.170 “ “
Magnesia.....	10.270 “ “
Chlorides of potassium and sodium.....	1.083 “ “
Phosphoric acid.....	0.395 “ “
Lime.....	40.600 “ “
Organic matter (loss by ignition)	3.100 “ “
	<hr/>
	100.386

ANALYSIS OF SOUTH BEND COMPANY’S PORTLAND CEMENT.

Moisture.....	0.150 per cent.
Carbonic acid gas.....	1.500 “ “
Silica.....	22.400 “ “
Ferric oxide.....	1.504 “ “
Alumina.....	15.146 “ “
Magnesia.....	4.320 “ “
Chlorides of potassium and sodium.....	3.820 “ “
Phosphoric acid.....	0.402 “ “
Lime.....	48.630 “ “
Organic matter (loss by ignition).....	1.450 “ “
	<hr/>
	99.322

F. W. VOGDES’ TESTS.

OFFICE OF SUPERINTENDENT OF NEW STATE HOUSE,
INDIANAPOLIS, November 5, 1880.

Tests of South Bend Portland Cement, manufactured at South Bend,
Indiana:

<i>Tension per square inch.</i>		<i>Compression per square inch.</i>	
One day in air.			
56 lbs.	.....	265 lbs.	
58 “	.....	245 “	
52 “	.....	235 “	
51 “	.....	265 “	
57 “	.....	235 “	
<hr/>		<hr/>	
Total, 274	Average, 54 4-5 lbs.	1245	Average 249 lbs.

Tension per square inch.

Compression per square inch.

Four days' exposure.

170 lbs.	.....	900 lbs.
140 "	.....	1025 "
165 "	.....	900 "
169 "	.....	990 "
179 "	.....	1060 "
<hr/>		
Total,	823	Average, 164 3-5 lbs. 4875 Average, 975.

One hundred and seventy-three days' exposure.

216 lbs.	.....	1500 lbs.
240 "	.....	1400 "
246 "	.....	1300 "
218 "	.....	1367 "
215 "	.....	1500 "
<hr/>		
Total,	1135	Average, 227 lbs. 7167 Average 1433 2-5 lbs.

One hundred and ninety-four days' exposure.

297 lbs.
288 "
260 "
321 "
266 "

1432 Average, 286 2-5

NOTE.—The capacity of our crushing apparatus is only 1500 lbs., and specimens showing 1500 lbs. were removed unbroken.

Signed, F. W. VOGDES, *Sup't.*

Superintendent Vogdes, whose reputation as a skillful architect and builder, is so well known, adds in explanation of the above, that "no attempt was made to develop the full strength of any brand of cement tested, but only to ascertain what strength might certainly be relied on, when the cement is used by inexperienced and thoughtless workmen, and under the disadvantageous circumstances constantly arising during the progress of a building."

The above tables show that in the manufacture of hydraulic cement, much greater strength and usefulness is attained if the component parts, even when they are nothing but the usual ingredients, are properly combined; and the tests, also, afford convincing proof that here in Indiana is made a Portland cement fairly rivaling the best foreign brands.

The citizens of the State may well be proud of the success attained, as there is a large and constantly increasing consumption of good Portland cement. The same company is also engaged in the manufacture of stone pipes, tubes, and architectural ornaments of great strength and beauty.

INDIANA BLOCK COAL VERSUS PITTSBURG COAL.

During the past year the managers of the State benevolent institutions in this city had under consideration proposals for the supply of a large amount of coal for heating purposes, and before any contract was made, President Fishback, of the Board of Trustees, addressed to this office a letter of inquiry as to the relative merits of the Indiana block coal and Pittsburg coal, which elicited the following reply :

DEPARTMENT OF STATISTICS AND GEOLOGY,
INDIANAPOLIS, IND, August 26, 1879.

Hon. John Fishback, President Board Benevolent Institutions :

SIR: Your favor, dated August 29, (?) received a few days since, asking—

- 1. “ Which are the more economical coals for generating steam — Pittsburg or block coals ?
(Of course the general relative prices should be considered. ”)
- 2. “ Which of the block coals are the best ? ”
- 3. “ Will the block coals stand the winter weather as well as the Pittsburg coal ? ”

In answer I will say—

- 1. That an analysis of a good specimen of the Pittsburg gas coal (Youghioghaney) or its equivalent, and an average specimen of Indiana block coal, shows as follows :

Coals.	Fixed Car- bon.	Gas.	Water.	Ash (white.)	Coke.	Specific grav.	Weight of cubic foot	Heat units.
*Indiana block coal.....	58.00	37.00	2.50	2.50	60.50	1,227	76.06	8080
+Best Pittsburg coal	58.00	34.00	3.00	5.00	63.00	1,292	80.75	7505

* McRea Coal, Geological Report, 1875, page 72.
+ Gas Works, Pittsburg coal, Geological Report, 1875, page 69.

According to above results of analysis by Prof Cox, Indiana block coal is a small per cent. superior in heat-producing qualities to the best Pittsburg coal; and the latter is 40 to 50 per cent. dearer in price, it is much more economical to use block coal for generating steam. Besides, block coal is so nearly free from sulphur that boilers and fire grates will last much longer, block coal being used.

2. The best block coal for generating steam is the second grade, or that which will not answer for smelting iron without coke.

3. Block coals will not stand winter “ stocking ” as well as Pittsburg coal, but when the edges of a heap are adjusted by setting up blocks, and the upper surface is covered to a depth of four inches with slack, the waste has been found by experience of dealers to be less than two per cent., or almost nothing.

Respectfully yours,
JOHN COLLETT,
Chief of Department.

The result of this correspondence was that “ home industry ” was encouraged by the use of the block coal during the winters of 1879-80, in addition to which several thousand dollars of expenditures were saved to the State. The comparative cost of the amounts for which contracts were made, was as follows :

INDIANA BLOCK COAL.

	Bushels.	Per bush.	Amount.
For Insane Asylum	100,000	6 9-10c	\$6,900 00
For Deaf and Dumb.....	15,000	8½	1,312 00
For Blind Asylum	12,000	8½	1,020 00
Total.....	127,000	.....	\$9,232 00

PITTSBURGH COAL.

At the lowest bid offered was.....	127,000	14c	\$17,780 00
Net saving to the State.....			\$8,548 00

The Indiana block coal was also found so nearly free from sulphur and clinker that there was estimated to be an additional saving annually of 5 per cent. on the first cost of iron fire-boxes and flues exposed to the fire and flame.

A comparison of the temperature as taken heretofore when Pittsburgh coal was used, carefully measured and governed by thermometer, established the unquestioned economy and complete superiority of Indiana block coal.

HYPERION BURNING FLUID.

It became the duty of Mr. Hilary Clay, State Inspector of Carbon Illuminating Oils, in the course of his official investigations to examine a fluid bearing the above name.

He submitted samples to the Attorney-General with a request for an opinion as to his duties concerning the same, and the Attorney-General forwarded the samples to the office of this Bureau for examination in order to determine whether the products of petroleum were ingredients in the fluid.

The following letter gives the results of the examination :

DEPARTMENT OF STATISTICS AND GEOLOGY.
INDIANAPOLIS, IND., Jan. 12, 1880.

Hon. T. W. Woollen, Attorney General of Indiana:

SIR:—The sample of burning fluid marked “Hyperion,” submitted by Mr. H. Clay, State Inspector of Oils, has been examined

1. Physical characteristics, as odor, color, limpidity and smoky combustion, indicate products of petroleum.
2. It is coagulated (thickened) by *saponaria officinalis*, a test authorized by the Journal of Chemistry.

At the suggestion of Prof. Wiley, of Purdue University, and with the assistance of Mr. John Hurly, Chemical Analyst, the fluid was subjected to the test directed by chemical text-books of *fractional distillation* with the following results.

(a) Vapors came over at 113° F. which were not condensed by ice water, indicating products lighter than gasoline.

(b) From 120° to 180° F. distillate amounted to 37 00 per cent., with specific gravity of 0.666, thus indicating gasoline.

(c) From 180° to 220° F. the distillate amount to 33.60 per cent., with specific gravity of 0.698, indicating C. naptha mixed with gasoline.

(d) The residuum which did not evaporate at 220° F. was 29.40 per cent. of the whole with specific gravity of 0.73, indicating B. naptha with a small amount of A. naptha.

The following formula describing the products of petroleum, is from page 371, Vol. XIII, Appleton's Encyclopedia :

Articles.	Boiling Point.	Specific Gravity.
Gasoline.....	120° F.	0.665
C. Naptha.....	180° F.	0.706
B. Naptha.....	220° F.	0.724
A. Naptha.....	300° F.	0.742
Kerosene.....	350° F.	0.804

From the foregoing results and indications I am clearly of the opinion that products of petroleum are constituent elements in the sample examined for Inspector Clay.

At my request chemical tests were made by Henry Jameson, M. D., Professor of Chemistry at the Indiana Medical College, with similar indications.

Glass bulbs partly filled with the fluid and hermetically sealed, were placed in water. As it approached the boiling point one exploded at 185° F., another at 191° without report; another bulb, as before, containing about 15 to 20 drops of the fluid, was exposed to the flame of a small amount of the fluid. It at once exploded violently with a report similar to that of a musket percussion cap.

As a result of this investigation the Inspector ordered that this highly inflammable and dangerous burning fluid should not be sold within the State, and no doubt many lives and much property have been saved by his thoughtful vigilance.

JOHN COLLETT,
Chief of Department.

THE MAMMOTH AND MASTODON.

REMAINS IN INDIANA AND ILLINOIS.

Remains of the mammoth have been discovered in nearly all sections of Indiana. They have consisted, as a rule, of the most compact bones of these animals as the teeth, tusks, jaws, and thigh bones. Up to this time the finding of parts of over twenty-five mammoths, *Elephas americanus*, has been reported, and the bones have generally been found in the southern or middle part of the State, imbedded in the close dark clays, deposited in the central deep eddies of the Lacustral epoch which followed the glacial period. Fresh water at that time covered much of the great valley of the continent; sluggish rivers were the channels of the rainfall, as the slow rivers of South America now maintain the mighty Amazon, and a tropical climate prevailed. In the same clays have been found the bones of *Megalonix jeffersoni*, *Castoroides ohioensis*, *Bison latifrons*, etc., all giants of wondrous power. Some of the best preserved teeth of the Mammoth were found in the counties of

Vigo, Parke, Vermillion, Wayne, Putnam and Vanderburgh, and all of them indicated a development of size and strength in the animals fully equal to the best Asiatic specimens.

The most recent discovery furnishes, perhaps, the most interesting and important specimen that has yet been attained, and it will be of significance to scientists, to learn the exact circumstances under which it was found. During the summer of 1880, on the farm of Mr. John H. Caylor, E. $\frac{1}{2}$ N. E. $\frac{1}{4}$ Sec. 16, T. 18, R. 9 W., four miles southeast of Noblesville, Hamilton Co., a large ditch was being opened for the drainage of a morass, or swamp, which was situated in a valley twenty rods wide, and extending several miles from south-east to north, 10° west, indicating a sluiceway and furrows of the great ice-floe; and the fact that it crossed valleys formed by some of the actual streams and brooks indicated that the locality of the swamp had been a thoroughfare of the glacial age. The table land adjoining was glacial drift, and filled with many large boulders and gravel. Its surface was generally level, but presented a mammalated appearance, with isolated knolls, succeeded by occasional bowls, or basin-shaped depressions from one hundred to four hundred feet long, running east and west, and of a width half or two-thirds as great north and south. The formation of the table-land seemed to indicate that it was the top glacial deposit, and to suggest by its inequality, the final thrust of the ice-floe. The ditch was four feet deep, three feet of the cut was through recent peat or bog, and the bottom was excavated in fine blue clay to the depth of one foot. In this was found mammoth bones consisting of two well preserved teeth, one hip and one thigh bone and the tips of two vertebrae. These were scattered along the line of the ditch in a space eighty feet long by less than two feet wide. They were broken, but not in such a manner as to show any signs of the wear of distant transportation, rather indicating conclusively that the monster animal had lived there, and that up to the time of their discovery his remains had rested in their original miry grave.

Of the thirty individual specimens of the remains of the Mastodon (*Mastodon giganteus*) found in this State, in almost every case a very considerable part of the skeleton of each animal proved to be in a greater or less condition of decay. The remains have always been discovered in marshes, ponds, or other miry places, indicating at once the cause of the death of the animal and the reason of the preservation of the bones from decay. Spots of ground in this condition are found at the summit of the glacial drift or in "old beds" of rivers which have adopted a shorter route and lower level, consequently their date does not reach beyond the most recent changes of

the earth's surface; in fact, their existence was so late that the only query is why did they become extinct?

A skeleton was discovered in excavating the bed of the canal a few miles north of Covington, Fountain county, bedded in wet peat. The teeth were in good preservation, and Mr. Perrin Kent states that when the larger bones were split open the marrow, still preserved, was utilized by the bog cutters to "grease" their boots, and that chunks of sperm-like substance $2\frac{1}{2}$ to 3 inches in diameter (*adipocere*) occupied the place of the kidney fat of the monster.

During the past summer of 1880 an almost complete skeleton of a mastodon was found six miles northwest from Hoopston, Iroquois county, Ill., which goes far to settle definitely that it was not only a recent animal, but that it survived until the life and vegetation of to-day prevailed. The tusks formed, each, a full quarter of a circle, were nine feet long, twenty-two inches in circumference at the base, and in their water-soaked condition weighed 175 pounds. The lower jaw was well preserved with a full set of magnificent teeth, and is nearly three feet long. The teeth, as usual, were thickly enameled, and weighed each from four to five pounds. The leg bones, when joined at the knee, made a total length of five and a half feet, indicating that the animal was not less than eleven feet high and from fifteen to sixteen feet from brow to rump.

On inspecting the remains closely, a mass of fibrous, bark-like material was found between the ribs, filling the place of the animal's stomach; when carefully separated it proved to be a crushed mass of herbs and grasses, similar to those which still grow in the vicinity. In the same bed of mirey clay a multitude of small fresh water and land shells were observed and collected, which were kindly determined by Dr. F. Stein, as follows:

1. *Pisidium*, closely resembling *P. abditum*. Halderman.
2. *Valvata tricarinata*. Say.
3. *Valvata*, resembling *V. striata*.
4. *Planorbis parvus*. Say.

These shell-bearing animals prevail all over the States of Illinois, Indiana, and parts of Michigan, and show conclusively that however other conditions may differ, that the animal and vegetable life, and consequently climate, are the same now as when this mastodon sunk in his grave of mire and clay.

ARCHÆOLOGY.

A VINCENNES MOUND.

When first visited by the white race about 1700, the "Great valley of the continent" was occupied by a peculiar race of savage Indians. Of one general type, the different nations were separate and alien or only connected or united by temporary alliances. Purely nomadic, migrations with or without seeming cause, were common. Consequently no fixed habitations were erected—no permanent towns or cities existed. The only gravitating love of locality or country was respect for the graves of their fathers. Governed by impulses or necessities of the moment or the chase, their homes were as changeable as the seasons. Industry was a disgrace except as it led to success in war or the chase. Without written language, the assembly heard the story of every exploit—the orator was the historian—memory the only record. Their traditions did not reach back to an earlier people or age.

But extensive earthworks and temple, sepulchral or house mounds, are found in this region, especially in the States of Ohio and Indiana, which required for their erection persistent labor for a long time under intelligent direction. Many of these works exhibit high engineering skill, as parallel walls, exact circles and squares, so repeated as to prove the knowledge and use of an adopted rule of measure. Other geometric lines drawn over hill and valley seem to require exact instruments.

There is no indication of such skill, industry or effort in the Indian race of wanderers.

These works, however, indicate a sedentary, agricultural people, partly civilized. That race has passed away. A total wreck on the stream of time without word or script to their successors, except the mute story of crania, implements and mounds. Hence the wisest of our country have carefully explored such earthworks and collected the implements of this ancient race, hoping to throw some light upon the habits, government and religion of the lost people. Much has been done—more remains to do.

Some account was given by the writer in Indiana Geological Report, 1873, of the numerous antiquities in Knox county. The sepulchral mounds show respect for their illustrious dead, and the lofty temple mounds seem to indicate the holy city of a race of devoted sun-worshippers.

The tumuli of this and adjoining counties have on their surface shallow, intrusive graves of the savages. At the base, remains of the ancient people, and in a few cases between them, the stone graves or vaults of another race! pointing to at least three successive peoples who have occupied these mounds.

During the past summer (August, 1880) the authorities of the city of Vincennes, Knox county, Indiana, by John Burke, Esq., chairman of committee, and John Knauf, commissioner of streets, had occasion to complete the grading of Locust street. An ancient mound extending across the foot of this street and within three hundred and fifty feet of low water in the Wabash river was an obstruction, and its removal found necessary. The mound was ninety feet in diameter, and the greatest height in the center was four feet ten inches, with a gradual slope to the circumference.

The excavation was begun on the south side, with plow and scraper; in approximating the ancient surface of the plain which is a bed of modified glacial and fluviatile drift, an elliptical area eight feet in diameter was noticed presenting a fat black earth. This was carefully explored by the superintendent, and beneath was discovered an ancient *ossuary* or vault grave containing the skeletons, more or less decayed, closely packed and somewhat cemented together, of not less than thirty to fifty human beings. The bones were clustered pell-mell, heads, feet and fingers irregularly in contact with the larger bones. The only approach to arrangement was, that a few more, skulls were placed along the south and east borders of the pit; otherwise the remains were so crossed and mixed as to show that they were entirely disjointed; that it was a tomb of dry bones, not of bodies. These had been placed in the form of a sharp cone, but by compression and decay, now exhibited a thickness of six inches at the center, thinning down to a few scattered fragments at the edge of the circle. The vault or grave had been dug a depth of two feet in the surface of the earth, the interior smoothed with a coating of white plaster made from calcined mussel shells; the remains placed in the receptacle, and the exterior surface plastered, as the interior, with a coating one quarter of an inch thick. Over this was carefully placed a thick covering of black bituminous shale from the bed of "Turkey" or "Snap's" creek, a neighboring brook to the north, which, in its decay, made the remarkable deposit of "fat" "black" earth which originally commanded attention. The upper part was built up of clayey loam.

Many of the larger bones were nearly whole, and presented their surface outlines perfect. They showed no evidence of cutting or splitting, nor had they been baked, roasted or burned. These people were not cannibals, but had reverently gathered their dead, at some stated epoch, as mentioned in

"Jones' Southern Indians," and with solemn mourning re-united their departed friends, in a single grave, with national funeral honors.

At the center of the bottom of the vault, the first deposit in this grave was found a clustered sheaf of wing-bones of the wild turkey, one-fourth of an inch in diameter, and four and a half to five inches long, thirty-five to forty in number. The body or larger ends of these were all in one direction; the other end sharpened or beveled, and one side cut away, like the immense number of similar articles found in the ancient grave pits at Madisonville, Ohio. It is possible, if not probable, that they were so deposited in the center of this national grave, bound with cloth and bands, as a record of the number of dead here resting. With these were found three bear's tusks or teeth, with small holes drilled through the points, showing that some gallant warrior or hunter had been allowed to sleep his last sleep honored with a necklace of pendants,—trophy of the chase.

These *Ossuaries* and mounds of final burial are a common feature in the later mounds of this and adjoining counties. At several points mounds have been opened containing two or three vaults, built successively over each other, the first or lowest containing only two or three skeletons, the second ten or fifteen, and the upper one, as the nation had increased in numbers, containing twenty to fifty or more. A single vault, removed from Mr. Coffey's grounds at Spencer, Owen county, contained twenty-five wagon loads, or over six hundred bushels of human skeletons, representing fifteen hundred or possibly two thousand individuals. These vaulted mounds seem to indicate a race which succeeded the original Mound Builders, conquering and expelling the old race, and, as is always the rule in cases of conquest, adopting, in part, the civilization of their subjects and captives.

After tradition of this grave was lost, a tribe—perhaps a strange people—had built their communal house mound upon the north side, and partly overlying the vault. It was of later date and intrusive upon the ancient remains, and so recent that the river shells would not indicate a greater age than from four to six hundred years, while the more ancient vault might date back to eight hundred or one thousand years ago. This intrusive habitation had long been occupied, for beneath the fallen roof clays, were found successive beds of ashes from two to six inches thick, containing particles of charcoal and decayed shells of the *Unio*, *Helix*, and *Paludina*. At the river front of the mound two ground-stone foot-adzes, or gouges, were found, suitable for hollowing out and dressing the interior of canoes, troughs, etc., after they had been shaped by fire.

Vincennes was a favorite resort for all our ancient people. Without domestic animals or beasts of burden, they were compelled to rely on boats

or canoes for transportation, and this locality offered the nearest spot, clearly above high water, to the confluence of White and Embarras rivers, with the Wabash, hence, easy of access it was a capital city, as indicated by numerous mounds of habitation as well as by the great Temple, Terraced and Pyramid Mounds described in Indiana's Geological Report, 1873.

THE WORTHINGTON MOUND.

One of the most interesting works of the "Mound Builders" is situated on the triangular space or "square" between Washington, Main and Union streets of Worthington, Greene county, Indiana, not for its size or symmetry, but for the extent of materials, and especially for the character of the relics found. It is situated upon a slight knoll, not more than two or three feet elevated above the general level of the alluvial deposit on which the town is situated. This prairie is the ancient flood plain or "delta" land at the confluence of White and Eel rivers, streams easily navigable for the canoes and pirogues of our predecessors, and well stocked with fish; the surrounding regions offer rich soil, native fruit, and fattening grasses to the buffalo, deer and other beasts of chase.

The mound, as well as can be now determined, was slightly elliptical, being 360 feet wide from north to south, and from 360 to 390 feet long from east to west; the extreme height of carried material at a point a little north east of the center, was nine feet six inches, sloping rapidly to the east, but with gradual incline north, south, and west. The carried material was a fine loam or clayey earth, brought from a neighboring marsh one quarter to half a mile north, so that the distinction between the artificial mound and the natural surface of clear fluvial sand was easily apparent. This material amounted to nearly 4,000 cubic yards of earth—1,800 wagon loads; and as these people had none of the tools of our life, we may say 108,000 baskets full. Allowing that these workmen, or builders, would travel as far as an army under heavy marching orders, they would carry and deposit about one half a cubic yard per day to each man, or 8,000 days for one man. But considering that each man had to supply himself with food, and that he had to join in the dance and festivities common to barbarous people on ceremonial occasions, we may more safely estimate nine baskets full, or nine cubic feet of earth as a day's work; consequently it would require the labor of one man 12,000 days, or 200 persons full sixty days.

The outlook due east was up a valley piercing the eastern bluff of White river, giving the sleepless priest who guarded the ever burning fire upon his

altar, such opportunity of catching the first rays of "sunrise" as was necessary in calling his people by chant and drum to their morning devotion and worship of the sun—the fountain of life, light and comfort.

Several years ago Mr. W. C. Andrews, in preparing for the erection of the old "Franklin House," excavated part of the east side and top of the mound. Near the central apex he found an elliptical vault eight feet long, five feet wide, and three feet deep, surrounded by a sandstone wall eighteen inches thick, with a narrow entrance at the south end and a minor elliptical chamber separated by a wall at the north extremity. The bottom was floored with thin slabs or flag-stones; it contained no bones or other relics, but the interior contents a "fat, black" earth, indicated the decomposed remains of a cover of black, bituminous shale from the roof of neighboring outcrops of coal, *A*. This vault was evidently not connected with, but intrusive upon the original work, after abandonment by the originators. It seems specially adapted for the purpose of a temporary receiving vault for bodies of those dying between the epochal national funerals. Such temporary vaults were noticed (Ind. Geol. Report, 1870), at Fort Azatlan, in Sullivan county and other places in this State. Its location was invited by the circular depression at the chimney top near the apex of their predecessors' edifices.

In 1878, the town authorities of Worthington removed a considerable part from the north side of the mound, discovering none of the ancient remains, but exposing several intrusive Indian graves near the surface, but on the completion, March, 1880, of the Terre Haute and South Eastern Railroad to this point, it was necessary, in making a junction with the Indianapolis and Vincennes Railway, to fill up the abandoned bed of the W. & E. Canal along the track of the latter road. This was done under the direction of Mr. Calvin S. Taylor, by borrowing earth from the mound. Much credit is due Mr. Taylor for carefully observing the developments made, for sacredly preserving the few relics found, and for measurements here reported.

The following interior arrangements were observed: The surface soil had been stripped away to a depth of seven or eight inches, exposing a sub-soil of compact, fine sand, which constituted the floor of the mound room. Near the center was a bed of ashes about ten inches deep, covering an area of ten to twelve feet square, in which were roasted bones of animals, spikes of deer horns, mussel and snail shells, charcoal and fragments of earthenware pots, indicating the kitchen fire of a large household. The disturbed nature of the earth above this fire-place, with a quantity of flat stones reddened by fire, seemed to indicate a chimney, or smoke flue, partly supported by rough masonry, which in the course of time had fallen in; black spots, or columns of black mould at the circumference of the mound and at inte-

rior points showed that trunks of trees had been utilized as posts, to support the earthen roof, which had entirely decayed.*

The floor of the building was covered with fragments of broken pottery, with a few stone or bone implements of household use. No warlike weapons were seen—it was a peaceful, agricultural people. The whole mound seemed to indicate the communal home of a large family or tribe, with a common roof, walls, fire, etc., a mode of life characteristic of many native nations and races.

Single human skeletons were found irregularly scattered near the circumference of a circle about sixty feet in diameter, having the ash pit for its

FIGURE A.

center, but more numerous near the eastern doorway. The bones were badly decayed, and as a rule, went to dust after exposure; they would represent a possible fifteen to twenty individuals.

At once the question arises, what changed this residence or home of a tribe to a charnel house? A single circumstance throws a ray of light. On the northwestern arc of the circular corridor, or area, was found the skeleton of a man with household implements widely scattered about as if in ordinary use; the back part of his skull, shown in figure A, was crushed in by the blow of a large stone hammer from behind and below, or while reclining on his right side, making an opening and indentation in the occipital region $2\frac{1}{2}$ by 3 inches in area. A murder had been committed; an unholy death

*Thousands of analagous natural columns of black earth were exposed in the cellar for the new State House at Indianapolis, discovering three successive forests, the stumps of which have been buried by the overflow deposits of the neighboring river, fairly showing the slow decay of trunks of trees, and the effort of nature to fill the vacuum made by decay with black mould carried by percolating rain water.

had occurred beside the household altar, and probably by a law common to some American and Pacific island peoples, the house was thenceforward "taboo," unfit for occupation, and dedicated to the dead. The remains of others were then brought from temporary graves and here deposited in the national "dead house" for their last sleep.

The articles found on the floor of the mound were:

1. Crania and human bones.
2. Ornamented vase.
3. Japanese image—head.

FIGURE B.

4. Japanese image—foot.
5. Bone whistle.
6. Copper axe.
7. Flint knives.
8. A smooth, symmetrical, oblong, spherical stone muller or pestle.
9. Flint chips, by abrasion, showing use.
10. Bone implement.

DESCRIPTION OF RELICS IN WORTHINGTON MOUND.

The principal bones of the murdered victim were preserved. The skull, Fig. A,* is of the typical pyramidal form characteristic of the early Mound Builders and gives the following measures:

Circumference from eyebrow to base of occiput.....	18.20 inches.
Frontal arc, from ear to ear.	10.10 "
Arc over top " " " "	12.75 "

* All figures of the relics, to insure absolute fidelity, are cut from photographs on wood.

The well closed sutures and worn teeth, as examined by Dr. Brouillette, of Worthington, indicated his age to have been 55 or 60 years, and by meas-

FIGURE C. FRONT VIEW.

FIGURE C'. SIDE VIEW.

urement of the tibia his height when living was only 5 feet 4 inches. The high head showed an unreasoning man of great firmness and energy, and the projecting lower jaw a strong flesh eater. The cranium was abnormal or "lop-sided," by reason of superior size of the right over the left side, so that when erect the head would incline that way, and as a rule he would sleep lying on that side, as was probably the case when he was killed.

The vase is ornamented by a peculiar fillet, with complementary pendant curves in symmetrical design and shows more skill than is usual in Mound Builders' pottery. It is the most artistic design accompanied by regular form, seen by the writer out of over a thousand specimens by him examined, and seems to indicate skill of a higher order than the careless efforts of an occasional workman. In other words, it exhibits the

FIGURE C''.

skill of a habitual mechanic trained by teachers as well as practice. The vase is shown in Fig. B.

The Japanese head and foot, Fig. C, was so peculiar as to awake doubts as to the genuineness of the find, hence an exhaustive inquiry was made, not only of those immediately engaged on the excavation, but of other citizens, calling in the aid of the well-known and successful detective, Mr. K. Osborn. The testimony of all united as to its authenticity. The superintendent, Mr. Calvin S. Taylor, reports that it was found by a boy employed on the excavation, about 60 feet N. N. W. from the hearthstone center, on the sand floor, 8 feet below the surface. When first removed from its bed it was soaked



FIGURE D. COPPER AX.
Front and side view.

with the dampness of the earth and so softened that in brushing away the adhering dirt, the extremity of the nose and ball of the right eye were slightly abraded, as may be seen. The image was probably entire, but in the bustle of work with a full force of men and teams, only the head and one foot was preserved. A front and side view of the first is given Fig. C and C'. Of the latter a side view, Fig. C''.

The head is a striking picture. No artist could conceive the image of an eagle or lion and fix it in pictured art, without seeing, or knowing of such animals. The physiognomy here given is as distinct from other races, as these animals are from other species. The most inventive genius could not join the almond eyes, high cheek bones, strong nose, pouting lips and flabby ears to an image, without seeing familiarly an original Japanese. Nor would he

have done so unless the figure awoke either ideas of beauty, or respect for a superior from worthy qualities, as an ancestor, governor, teacher, or necessary protector. Mound pottery, as a rule is rude, inartistic and composed of a mixture of clay and coarsely powdered mussel shells. This image, on the other hand, is an exact presentment of a certain type, and does not contain in the interior fragments of shells, but in addition to the other points of superiority, has the exterior surface covered with a well defined coat of grayish white clay, an art not usual in our ancient potters.

All these facts seem to show that this image was the work of an artist with more than self acquired skill, and was the result of generations of men combining their experience from teacher to pupil, from master to learner, and was borrowed from some older center life, and this knowledge of the facial expression, it is suggested, could only be borrowed from Japan or China. The recent emigration by a fleet of canoes of Asiatic Esquimaux by Behring's Straits to Alaska on this continent, fully sustains this suggestion.

The material of the image was submitted to Chemical Assistant Hurty for qualitative analysis, and it was found to contain silicates of alumina, soda and potassium, and sand, humus and oxide of iron. If it was of modern make, it would not have contained part of these ingredients, and if imported from Asia, would have contained the common kaolin of Eastern Asia. But the analysis shows that the image was made up from common swamp clay, and still contained humus or organic matter, and the coating was from the fire-clay of some adjacent coal bank, clearly indicating that it was made of *local materials*, and therefore of *local manufacture*.

The copper axe (Fig. D) is of the usual form and size discovered in the mounds. On analysis, it was found to be composed of copper, with traces of iron and carbon, but without alloy of phosphorus or tin. The analysis shows its origin from the copper mines of Lake Superior, and indicates their line of immigration by these mines to Indiana.

The other articles mentioned were the household implements common about the kitchen fires of this race.

If the examination of this mound and its remains shall serve to throw one ray of light upon the origin of the Mound Builders, even feebly "help to bridge the centuries and tell the wondrous story" of a people lost in silence, the highest wish of the writer will have been accomplished.

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[illegible]

GEOLOGY OF PUTNAM COUNTY.

Putnam county is situated directly west of the capital of the State, and Greencastle, the county seat, is forty miles distant from Indianapolis. It was organized in 1821, contains 486 square miles or 311,040 acres, and is bounded north by Montgomery, east by Hendricks and Morgan, south by Owen and Clay, and west by Clay and Parke.

Raccoon creek drains the northwestern parts, passing into Parke at Portland Mills; the northeastern central areas are drained by Walnut creek and its tributaries, flowing into Clay at the extreme southwestern corner. Mill and Deer creeks discharge the water-shed of the south and southeastern areas. These streams furnish ample drainage, a well distributed supply of water, and some excellent mill-sites; there are many other smaller streams and brooks of good water.

The surface in the north and eastern parts is level or gently undulating, and is inclined to be wet in rainy seasons. In the center and southwest it is agreeably rolling, and in the vicinity of the streams, and conglomerate sand rocks, hilly. The soil is a rich calcareous loam or clay, well adapted to grain and grass, and nearly all susceptible of profitable cultivation. The original timber was a magnificent growth of sugar, beech, walnut, ash, oak, and poplar.

The Terre Haute and Indianapolis, and the Indianapolis and St. Louis railways cross the center of the county east and west, and the Louisville and Chicago from south to north, all making Greencastle a meeting point. The Indianapolis, Decatur and Springfield railway traverses the extreme northern tier of sections; united they afford excellent facilities for transportation. The principal towns are Greencastle, Fillmore, Bainbridge, Roachdale, Russellville, Reelsville, Putnamville, and Cloverdale, all showing thrifty life, with well appointed churches, school-houses, stores, shops and residences.

The various geological features brought together from widely separated outcrops and exposures give the following:

CONNECTED SECTION.

QUATERNARY AGE.

	Feet.		Feet.
Alluvium.....	00	to	30
Loess, or lacustral deposit.....	00	to	110
Boulder drift.....	10	to	100

CARBONIFEROUS AGE.

Coal Measure Period.

	Feet.		Feet.
Conglomerate sand rock.....	00	to	40
Coal A.....	00	to	2
Fire clay.....	00	to	3
Conglomerate sandstone.....	10	to	30

SUB-CARBONIFEROUS PERIOD.

Chester Group.

	Feet.		Feet.
Kaskaskia limestone.....	00	to	12
Chester sandstone.....	90	to	10

St. Louis Group.

	Feet.		Feet.
Concretionary limestone and shale.....	80	to	100
Gray, flinty, magnesian limestone.....	30	to	10
Argillaceous laminated deposit.....	5	to	18

Keokuk Group.

	Feet.		Feet.
Keokuk limestone and shales.....	50	to	78

Knob Stone Group.

	Feet.		Feet.
Knob shales and sandstone.....	20	to	50
Knob shales and sandstone, in bores.....			350
Grand total.....			885

GENERAL GEOLOGY.

QUATERNARY AGE.

The surface of the county is agreeably diversified, combining in a high degree the useful and agreeable, as rocky scenery, with romantic views of plain and woodland, rich in interest to the economist, all uniting to tell a long story, recorded on rock and plain, of the earth's past, laden with promises of the future.

Soils and surface deposits are formed by the disintegration and destruction of rocks. If derived from local rocks, or a single bed, they are generally thin or obdurate, and the character of the productions—even of a people—

may be declared from their geological deposits. On the other hand, a region having a soil derived from the greatest number of strata is, as a rule, productive and desirable. The soils of Putnam county, although principally composed of the local rocks which give character to the different parts, are also enriched by materials imported from all the paleozoic strata, and thoroughly crushed, mingled and incorporated by the mighty forces of the glacial age; the soil, therefore, is superior, or equal to the best.

ALLUVIUM.

The alluvial deposits or creek and river bottoms which belt the water courses are due to causes now in action. This material is derived from the adjoining banks, enriched by the wear of rolling pebbles and grinding sand, and is cast out by overflows upon the flood plains of the streams. Rich in mineral plant food, it always contains a large amount of soluble organic matter, constituting a valuable and productive farm or garden land. Each bottom field is a gold mine, for its productions will bring gold or its equivalent with less labor than other ordinary pursuits or mines.

LOESS OR LACUSTRAL DEPOSITS.

These deposits are characteristic of an epoch which occurred subsequent to the glacial. The arctic coldness had subsided. A great body or sea of fresh water covered most of the southern half of the State with gulfs, bays and lagoon arms which reached north in the line of the ice thrusts. A warm, almost tropical climate prevailed, giving life and sustenance to the monster animals now extinct, including the American elephant, whose remains have been found at several stations in the county. This deposit, an almost impalpable sand and clay, was slowly formed at the bottom of a quiet waveless lake, filling up the lowest inequalities in the surface, for the lake water did not cover the high lands. Good examples are seen in the level plain adjoining Mill creek, in the southeast parts and in the railway cuts at and west of Oakalla station. Loess loams produce sweet fruits, and being free from pebbles are well suited for the manufacture of bricks. Those for the new State House are being made from this material in Morgan county.

BOWLDER DRIFT.

To the strange phenomena of the glacial epoch we are indebted largely for results which make this soil and surface configuration so desirable—a more than “New Kentucky.” A grand river of ice, with its sources among the snowy heights of distant mountains, laden with materials which border the St. Lawrence and lakes Ontario and Erie, pushed its ice foot beyond the western shore of Lake Erie and sent volumes of water through deep cut

sluiceways across the State in direction from N. 80 E. to the opposite course west, bringing with it as indications of its origin nuggets of Champlain iron ore and "biscuit stones" of Medina sandstone, etc. Evidences of this violent water flow are seen in the recently opened ancient bed of Lye creek in Montgomery county; in the bores, discovering a cut about fifty feet below the present water level in Six Mile Creek, Owen county; and in the ancient bed, one hundred and nine feet below the present channel of Eel river, in Clay county. In this county the same developments are met in sinking wells near Quincy, just beyond the southern boundary. At the fork of Croy's creek, four miles west of Reelsville, Mr. A. O. Hough put down a bore for coal about 1865, finding the bottom rock one hundred and twenty feet below the present water bed. It seems possible that the ancient Walnut creek flowed S. 80° W. or nearly west by Otter creek, from Oakalla, to the Wabash in a channel now deeply hid but which future developments may discover.

From causes now unknown the source of the ice river was afterwards changed to the northern center of the continent. This glacier moved south in two divisions, one excavating the basins of Lake Michigan, and the other of Huron and St. Clair, the first crossing the State from north, to south 8° to 10° east. The latter was very nearly due south. Combined they are wider than the State of Indiana from east to west and at a point of obstruction in Brown county the ice was about 400 feet deep. It bore upon its surface and in its icy bosom immense quantities of angular rocks, boulders, gravel, sand and earth from northern regions, which crushed and powdered were mingled with the debris of local rocks planed away and ground up in the mill of nature. The result was that irregularities were cut down, ancient river channels and sluice ways of great depth were filled up and the underlying rocks covered with a gray compact bed of clay, sand, gravel and rocks, termed the boulder or glacial drift.

Interesting specimens of glacial grooves, striæ and planishing are seen in "Rock Cut," north of Maple Grove station, on the Louisville, New Albany and Chicago railroad, and on W. B. Williams' farm, section 28, township 18, range 4, two miles south of Putnamville. At the first locality the glacier, in its southward movement, filled the valley of the adjoining stream to the east, and was heaped against and ground down the sloping sides and banks of the valley. The planished surfaces, grooves and striæ are distinct and perfect as of yesterday. At the second locality (Williams' farm), the ice flowing from the north was obstructed by a high hill of conglomerate sand rock, against which it steadily advanced with resistless force until it mounted the hill, leaving many planished surfaces, with scars and well-preserved grooves on the summit.

I am informed by Dr. R. T. Brown, geologist, that when the railways of this county were first constructed, at several localities traces of the glaciers' path were laid bare. At some points, where it crossed narrow east-west crevices, etc., he noticed that while the north wall was fresh and natural, the southern wall was scarred and worn by the pressure, indicating not only motion from north to south, but also a deflection of the ice sheet. Other interesting evidences of the glacial flow are noted in the adjoining counties of Owen, Clay and Montgomery, in Indiana Geological Reports, 1875.

Dr. Brown has kindly furnished the following observations, made nearly thirty years ago, of glacial action on the rocks of Putnam and Owen counties :

Professor Collett :

DEAR SIR: In response to your inquiry in regard to my early observations on the traces of glacial action in Indiana, allow me to say that between 1840 and 1850, I made a special study of the "drift formations" in Indiana, and now submit a few notes from memory.

Along the Walnut fork of Eel river, above Greencastle, on the southeast side, the limestone rocks, which in many places are exposed, were ground off and all the exposed angles are rounded. At a point a little southwest from the court house in Greencastle, I observed a considerable surface of rock that was denuded, on which were several well marked furrows with a direction a little west of south. These were repeated even more distinctly on an exposed summit about one-fourth of a mile southwest of Asbury University. The same phenomena were observed in the sandstone crowning the hill south of Greencastle, now occupied by the city cemetery.

On the south side of Eel river, about four miles below Bowling Green,* a high bluff of carboniferous sandstone has its surface laid bare for some distance, where the deep grooves and furrows of the Glacial period are preserved with wonderful fidelity. These phenomena in that vicinity have been studied with much care by James Ferguson, Esq., of Ashboro, Clay county, who may be consulted on the subject.

Going south from Greencastle, I observed in the limestone hills facing to the north the rocks laid bare and their angles ground off, while the hills facing south were either covered with a deep deposit of drift material, or if the rocks were exposed the angles preserved their original sharpness. This continues to the vicinity of Bloomington, below which it is not so well marked.

Respectfully,

B. T. BROWN.

PALEOZOIC GEOLOGY.

CARBONIFEROUS AGE.

COAL MEASURE PERIOD.

The coal measures are the most recent rocks exposed, and comprise the southwestern portion of the county. Beginning at Portland Mills, they generally form the surface rock west of Little and Big Walnut Creeks; south

* Owen county.

of Reelsville, they broaden to the east to near Cloverdale, and thence southwest by Doe Creek to the southern boundary.

These rocks are almost wholly, well laminated or massive beds of conglomerate sandstone, carrying, as usual, the thin coal seam A, and pockets of clay and kidney iron ore. Outliers of conglomerate exist east of this line, as drawn on the map, as at Cemetery Hill, south, and the highlands west of Greencastle, while sub-carboniferous limestones are also exposed in deeply eroded valleys to the west. And this feature of outliers and exposures occur east and west of each of the several geological lines, which are intended to be merely approximations.

The conglomerate sandstone is exposed in well-developed ledges, forming the surface rocks, and the steep bold bluffs of the valleys. It is a coarse, red, or yellow ferruginous sandstone, excellent for walls, foundations and other hammered masonry, but the abundance of superior limestone overshadows its ordinary good fire and weather-proof qualities.

A single outcrop of coal near the top of one of the highest eminences in the county, on Aaron Bales' land, section thirty-four, town thirteen, range four, was possibly referable to seam B. An adit had been driven under the hill two hundred or three hundred feet long. The mine was not in work, and measurements could not be made. The coal was reported three feet at the thickest pocket, with an average of less than two feet. The product was said to be inferior and was used for grates. There is no probability of finding coal B in this district, sufficiently developed to pay for working.

The aluminous shales near the base of the conglomerate are a pretty constant feature, and generally occupy the place of coal A. Where the latter is disseminated, thick beds of black, slaty shale are found at that horizon, and sometimes pockets of kidney iron ore, and bands of pyrites.

The conglomerate coal A, occurs at intervals all over the district. At a few stations it attains a thickness, in small pockets; of two or three feet, but such pockets, or pools, are limited in width to a few yards, or rods. As a rule the seam is barren or only one or two inches thick, and will not exceed an average of four inches. The product is at the same time sulphurous and inferior. Money spent in mining at this horizon will not earn an average return of ten cents on the dollar.

At Cemetery Hill, a mile south of Greencastle, is a coal measure outlier, with the following exposure:

Section at Cemetery Hill.

	Feet.	Inches.
Conglomerate, with <i>Lepidodendra</i> and <i>Stigmara</i>	20	00.
Laminated sandstone.....	8	00
Thin coal.....	00	06

	Feet.	Inches.
Shaly sandstone.....	12	00
Pyritous shale, with iron nodules.....	8	00
Black slate and coal A, (?).....	3	00
Shales and sandstone, with coal plants and large pronged fucoides.....	31	00
Limestone in brook.....	10	00
	<hr/> 92	<hr/> 06

On the Black farm, section 22, township 14, range 5, the high hills exhibited massive ledges of conglomerate, with good grit stones:

Section on Black's Farm.

	Feet.	Inches.
Ferruginous sandstone, with "pipe" and "pot" iron ore.	10	00
Heavy sand rock, with false bedding.....	15	00
Massive conglomerate.....	35	00
Pyritous shale, with "rock houses".....	5	00
Black slate.....	2	00
Coal A.....	1	00
Fire clay.....	2	00
Chester and St. Louis limestone to Walnut Creek, partly covered.....	95	00
	<hr/> 165	<hr/> 00

In the vicinity of Morton, a depression in the underlying rocks gives an eastern extension of the coal measure rocks, and many beautifully preserved "ferns" and trunks of plants indicate the horizon of coal A., the superimposed sand rock having been chiefly eroded.

At Portland Mills the conglomerate is well exposed. A wall, boldly escarped, guards the north bank of Raccoon Creek. The massive layers offer in abundance good fire and weather-proof building material and good grit stones. Romantic valleys are deeply cut into or gash the sides of this deposit. The surroundings are grand and full of wild beauty. By a strange freak of nature, indicating erosive currents at the beginning of the coal measures, and the destruction of some of the intervening rocks, the conglomerate rests at the mill directly upon the St. Louis limestone, but less than a mile north, on the Gregg farm, the opposite sides of a valley exhibit conglomerate and St. Louis rocks, showing grave inequalities in the bottom of the ancient sea, or, as is more probable, that not only the Chester rocks were entirely removed, but also that the St. Louis rocks had been eroded to an extent not less than 100 to 150 feet at the beginning of the coal age, by the strong currents which transported and deposited the coarse materials of the conglomerate. Many well planished and striated boulders of granite indi-

cate the glacial origin of Raccoon valley. Some, imported by the ice flow from the region north of lakes Huron and Superior, were still two to four feet in diameter.

Section at Portland Mills.

	Feet.	Inches.
Slope—loam	10	00
Conglomerate sandstone—massive.....	80	00
St. Louis limestone, with <i>Athyris ambigua</i> , <i>Syringopora</i> , etc.....	4	00
	<hr/> 94	<hr/> 00

The hills in the vicinity of Reelsville, are capped with conglomerate, exposing sub-carboniferous limestone and shales in the creek valleys.

Section at Reelsville.

	Feet.	Inches.
Slope, drift clay and loam.....	90	00
Boulder clay.....	12	00
Coal A	1	00
Fire clay.....	4	00
Ferruginous conglomerate sand rock.....	76	00
Chester limestone, Kaskaskia division.....	38	00
St. Louis limestone to creek	26	00
Total.....	<hr/> 247	<hr/> 00

The following section on the roadway leading south from the village is given to show how variable are the strata and qualities of the rocks, and the differences that were observed in localities scarce half a mile apart:

Section South of Reelsville.

	Feet.	Inches.
Slope, drift clay.....	30	00
Conglomerate sandstone.....	40	00
Buff and gray shale with plates of sandstone.....	6	00
Ferruginous limestone.....	2	6
Black pyritous shale.....	11	00
Chester limestone, Kaskaskia division.....	48	00
St. Louis limestone to creek at road bridge	12	00
Total.....	<hr/> 149	<hr/> 6

During the petroleum excitement (about 1865), a prospecting bore was put down in the east side of the village, commencing eighteen feet above low water in Big Walnut Creek. Wm. Reel, Esq., one of the managers of the enterprise, gave from memory the following statement of strata developed:

Section in Reelsville Artesian Well.

	Feet.	Inches.
Drive pipe, in sand, gravel, etc.....	45	00
St. Louis and Keokuk limestone	250	00
Blue knob shale—brine.....	625	00
Sandstone	25	00
Devonian black slate	65	00
Devonian hard limestone.....	40	00
Argillaceous silurian limestone—brine.....	150	00
Cavity ?.....	6	00
Hard cherty limestone with cavities, the flow of white sulphur water casting up the boring de- bris.....	34	00
	<u>1,240</u>	<u>00</u>

There resulted a strong flow of white sulphur water highly charged with sulphuretted hydrogen gas, and containing chlorides of sodium, calcium and magnesium, sulphites of the same bases with traces of bromine and iodine, etc. It had a pleasant saline, sulphurous taste and pungent odor, and was found to have great medicinal efficacy in cases of dyspepsia, rheumatism and ague. It was considered a specific in diseases of the liver and kidneys, and although the outlet was covered by the flood of 1876 its "magic cures" are still held in kind remembrance in this vicinity.

Other outcrops of coal seam A occur north and northwest of Reelsville; generally thin and unworked. The following exposures were noticed of

Coal Seams South of Reelsville.

	Feet.	Inches.
Southwest quarter Section 26, T. 13 R. 4, A.....	1	00
Northwest quarter Section 34, T. 13 R. 4, A.....	2	00
Northwest quarter Section 28, T. 13 R. 4, A.....	2	00
Northeast quarter Section 28, T. 13 R. 4, A (shaft)...	2	00
Southwest quarter Section 7, T. 12 R. 4, A.....	—	—
Northeast quarter Section 3, T. 12 R. 4, A.....	1	06
Northwest quarter Section 18, T. 13 R. 4, A.....	1	06
Southwest quarter Section 22, T. 13 R. 4, A (in well)	1	00
Northeast quarter Section 27, T. 13 R. 4, A (in well)	0	06

These coals are only opened for local use now, and will not pay to work except by stripping; but, in the distant future, when coal may possibly become scarce or railway transportation exorbitant, seams eighteen inches thick and even less, will be worked, as such seams are now sometimes worked in Europe.

The whole district is bountifully supplied with sandstone; at many localities, in massive ledges of excellent quality for foundation and ham-

mered masonry, it is fire and weather proof. At other points good grit stones are reported.

Six miles southwest of Cloverdale on the northeast quarter of section 12, town 12, range 5, is a very considerable outcrop, of rich band and kidney iron ore, in a wild, deep ravine. It was mined in 1860 by the proprietor, and some thirty tons sold to the Knightsville furnace. It was found to be an excellent ore to mix as a flux with the Missouri or Lake Superior ore. But the expense of mining and hauling was fully equal to the market value, and the enterprise was abandoned.

Superior potter's clay was noticed near the school house, northwest quarter section 17, township 12, range 4, which is worthy the attention of potters and tile makers. In a deep ravine, northeast quarter, section 8, township 12, range 4, is a bed of silicious shale, filled with eccentric and comical concretions of almost every imaginable shape, as if trial efforts of the "plastic hand of nature."

At many localities throughout this portion of the coal measures casts of *Lepidodendron*, *Sigillaria*, *Stigmaria* and *Calamites* were seen, with occasional fronds of ferns and leaves of *Cordaite*s, in a fragmentary condition indicating the violent ocean currents which traversed the old shore line and deposited the coarse, sandy conglomerate.

The soil of this district, derived largely from the destruction of local sandstones and shales, is sandy, producing moderate crops of grass, rye, wheat, corn, etc. The hill tops successfully and profitably produce the best of fruits, as apples, peaches, pears, etc.

SUB-CARBONIFEROUS PERIOD.

CHESTER GROUP.

No workable coal exists below this horizon in Indiana, so that when the rocks in place show that they belong to this or a lower horizon, time or money spent in search of coal is worse than wasted. The Chester beds occur immediately under the coal measure conglomerate, and occupy as surface rock a narrow belt along its eastern outcrop, and also surrounds the base of such outliers as those south and west of Greencastle.

The Kaskaskia limestone, or upper division of the Chester, varies from nothing to twenty feet in thickness; and is usually persistent in the southeastern parts, and always contains characteristic fossils. The Chester sandstone is often only locally present. It is generally soft and well laminated, and contains coal measure plant remains. It varies from naught to seventy

feet in thickness, being pretty well developed about Cloverdale, and thence south.

The Chester rocks thin out, or were eroded before the deposit of coal measure strata in the northern part of the county. In the vicinity of Reelsville the following fossils were noticed, mentioned in the order of their discovery:

Productus cora, *P. remi-seticulatus*, *Athyris ambigua*, *A. sub-lamellosa*, *Strep-torhynchus crenistriatus*, *Zaphrentis spinulifera*, *Dicocrinus spinifera*, *Pentremites pyriformis*, *P. godoni*, *Agassizocrinus pentagonus*, etc.

Soils derived from Chester rocks are silicious clays, but where the Kaskaskia limestones are well developed, are often reddened by iron set free by destruction of that stratum and they are generally fertile.

ST. LOUIS GROUP.

The St. Louis beds form the surface rocks in a well marked division from four to eight miles broad, extending from the extreme northwestern to the southeastern corners of the county, with denuded extensions in the valleys of the Chester and coal measure beds. These strata are known as the "cavernous" or "concretionary" limestones of the Western States and are remarkable in the southern parts of this State for caverns, sunken valleys and subterranean rivers. South and east of Greencastle many funnel shaped sink holes, which receive and deliver the rainfall to hidden streams, indicate the probability of small caverns yet to be discovered here. The limestones vary much in quality. Some are nearly pure carbonate; others are silicious or aluminous, and beds of shale, clay and argillite are interpolated.

The connected section gives a condensed statement of these beds, but as they vary stratigraphically in very short distances, so that a section taken at any one locality can not be duplicated at another, local sections are given, and it is necessary in determining geological horizons that fossils be depended upon to identify such beds.

Before the deposits of the superimposed Chester strata, the St. Louis beds presented a wonderful succession of hills, domes, ridges and valleys. Part of these were the result of the process of deposition, as at a dome-shaped irregularity on the northeast quarter of section 3, township 12, range 4, where the St. Louis limestone dips east as well as west; and on the northwest quarter of the same section a partly uncovered ridge is seen extending north, south against the sides of which the Chester sandstone is deposited with such angular false bedding as would compensate for and rectify the irregularities of the surface, at one point the overlying strata pitching at an angle of 40°.

Coverdale lies in the western edge of the wide valley path of the north-outh glacial flow, that removed from this area the coal measure and Chester rocks which tower so grandly a few miles to the west, and passing south excavated the chasm now filled with lacustral silt along Eel river, so easily observed in the vicinity of Quincy. Sandstones and outcrops of coal A are well seen along the western bluff of this valley. On the Sackett farm two miles southwest of the village, stone has been quarried and the following strata exposed :

Section at Sackett's Quarry.

	Feet.	Inches.
White St. Louis limestone.....	6	00
Laminated limestone, filled with chert nodules, like sponges.....	9	00
Gray <i>Lithostrotion</i> bed.....	5	00
Creamy yellow stone.....	2	00
	<hr/> 22	<hr/> 00

The following fossils were noticed : *Spirifer keokuk*, *S. leidii*, *Productus cora*, *P. semi-reticulatus*, *Rhynchonella sub-cuneata*, *Zaphrentis spinulifera*, *Lithostrotion proliferum*, *L. mamillare*, spines and plates of *Archeocidaris*, and plates of *Oligoporus*. *L. proliferum*, was plastered over large blocks of stone, generally solitary, but sometimes in charastic clusters.

From the top of Gilman's hill, northeast quarter, section 1, town 12, range 4, a view is enjoyed of the peaks and elevations beyond Cataract, probably Spangler's hill, looming up against the southern sky, blue in the six miles of distance. The horizon slopes from the central pinnacle at Cataract west to Eel river valley and east towards Gosport and White river, indicating an anticlinal or dome of elevation.

About a mile east of Cloverdale, on descending from the limestone hills, a level, flat clay district is found, which extends east beyond Eel river and northeast towards Monrovia, in Morgan county. This area has been deeply eroded during the glacial epoch, removing more than fifty feet of St. Louis limestone, and along the eastern side of the county exposing rocks of the Keokuk and Knobstone groups. The excavation is now refilled with lacustral and fluviatile drift, indicating an abandoned river bed, which once connected by Indian creek with White river valley. The greatest depth pierced in this valley in digging wells discovers beds of dark quicksand, with some pockets of peaty muck in the lowest wells east of Higgins' creek.

Putnamville is located on the National Road, and before the construction of railways was one of the most important towns of the county. Residences, of some of the pioneers of the county and historic citizens of the

State are pointed to with pride, now marked with age. It is famous for valuable quarries of paving, curb and step stones.

James Lee & Sons work their quarry one mile west of town, shipping large amounts of flags, bridge, dimension and rubble-stone. The product has been in use, severely exposed to the extreme vicissitudes of our variable climate, including changes of 60° of temperature in a single day, for over forty years. It has shown capacity to resist the action of frost, fire and ice. Samples, taken, as a rule, from the exposed parts of the quarry when first opened in 1838-40, may be seen in piers, etc., of the bridges and culverts on the National road and in the locks of the canal, the steps of the mother and branch Banks of State, at Indianapolis, and also the steps of the Terre Haute House at Terre Haute, and of the old University building at Greencastle.

As pavement, step stones, and for curbs it is unrivaled. In the last two cases, in the wear of nearly half a century of almost constant use, the loss and breakage will not exceed one-quarter of an inch, or at the rate of half an inch in one hundred years. It is excellent for paving flags. The stone, from natural lamination, may be obtained smoothly dressed and ready for use, except jointing, in slabs three, four, five, six and seven inches thick, of any length and breadth suitable for transportation. Its quality of hardness renders this material desirable for piers and rip-raps exposed to the action of ice and waves. Samples used as back walls and hearths for fire places, and fire boxes of steam engines, have rendered good service.

The stone is a close-grained, hard, silicious limestone, weighs 166.36 pounds per cubic foot, with the small ratio of absorption of 1 to 170; the crushing strength as tested by General Gilmore, U. S. A., is 11,750 pounds to the square inch. It was chemically examined by Professor Cox for the State House Commissioners, with the following result:

Analysis of Putnamville Stone.

	Per cent.
Water dried at 212°.....	0.30
Insoluble silicates.....	27.50
Ferric oxide.....	2.00
Alumina.....	1.70
Lime.....	35.23
Magnesia.....	0.33
Carbonic acid.....	28.03
Sulphuric acid.....	2.60
Chloride of alkalies.....	0.75
Loss and undetermined.....	1.56
	<hr/> 100.00

The small amount of water absorbed by this stone fully explains why it presents so many good qualities.

Section at Lee's Quarry.

(Putnamville.)

	Feet.	Inches.
Stripping, clay and stone.	2 to 10	00
Flagstones, even bedded....	00	05
Flagstones, even bedded.....	00	03
Flagstones, even bedded.....	00	08
Flagstones, even bedded.....	00	08
Flagstones, even bedded	00	06
Flagstones, even bedded	00	08
Dimension stratum.....	2	00
Conglomeratic limestone.....	00	04
Dimension layer	3	07
Dimension layer.....	1	09
Diagonal rubble.....	1	00
Flagstone, choice.....	00	06
Dimension stone.....	4	00
Total	26	04

This stone is reported as being exposed on two hundred acres of neighboring land, and nearly similar quarries were formerly worked two miles south of this locality, and a quarter to half a mile east. The stone can be worked winter as well as summer, giving constant employment to operatives as it does not require seasoning. The partings between the upper flags are marked with tracks of crustaceans and other animals, undetermined, and generally present a double row of foot-prints in pairs. Some of the ancient ripple marks are beautifully preserved, telling the story of their aqueous origin.

The adjoining hill is capped with an overlying white limestone, suitable for calcining, which contains St. Louis fossils as *Athyris*, *Productus*, *Orthoceras*, *Pleurotomaria*, crinoid stems, etc.

This stone invites the attention of builders, engineers and street commissioners, where permanence rather than cheap show is desired.

Greencastle, the county seat, is situated on the high, rolling table land, one mile east of Walnut Fork of Eel river. Before the completion of railways, Prof. Tefft insisted it was such a central point as would attract lines of commerce; proving the truth of his statement by declaring, "that from his standpoint the circling horizon fixed it as the central station of the world." The almost wild jest of 1848 is partly realized. Two east and west trunk lines and one from north to south cross at or near the city, while another

direct east and west line crosses the northern portion of the county, and gravel roads radiate to almost every part.

It is the seat of Indiana Asbury University, which struggled through pioneer life, aided by the unconquerable energy of the early "circuit rider" with the enthusiasm of his young manhood. It has pursued its steady course, bravely joining in the struggle for education with friendly competitors, yet from lukewarm friends occupying till a very recent date such an old and poor edifice, that when asked for her jewels she could only point to her sons in every proud rank of active life, and claim their achievements as the *alma mater's* crown. Since the late fire the University is supplied with beautiful and well-appointed buildings, and the library, apparatus and museum are fast approaching the excellent condition her generous sons and daughters plan and intend to insure. Her sons have distinguished themselves on every field of peace and war, and have reflected credit upon the university.

Several thriving manufactories are located here, the principal of which is the "Greencastle Nail Works," an extensive and well managed establishment.

Geologically, Greencastle rests upon the upper ledges of the St. Louis limestone. As already mentioned, the conglomerate sand rock of the coal measures caps the summit of Cemetery Hill just south, as also the hills across Walnut, just west of the city.

Stone is quarried for foundations and rock-faced building in the suburbs, including part of the following strata:

Greencastle Section.

	Feet.	Inches.
Cherty limestone, St. Louis.....	2 to 8	00
Blueish gray limestone, St. Louis.....	6	00
Dimension stone.....	3	00
Coping stone	0	10
Coping stone.....	0	08
Curb stone.....	0	05
Dimension stone.....	2	02
Dimension stone.....	2	00
Dimension stone.....	1	06
Dimension stone.....	3	06
	<hr/> 28	<hr/> 01

Similar quarries are found at several points about town, affording an abundant and cheap supply of stone, which meets with the approval of the architects and builders of the city.

An interesting fossil locality was visited in Lockridge's blue-grass pasture, east half of the west half of section 17; township 14, range 4, one mile northwest of town.

Section at Lockridge's Fossil Quarry.

	Feet.	Inches.
Fluvatile drift.....	10	00
Gray massive St. Louis limestone.....	12	00
Gray St. Louis limestone with <i>Orthoceras winchelli</i> , <i>Nautilus coxanus</i> , <i>N. decoratus</i> , <i>Bellerophon hiulcus</i> , <i>Goniatites</i> , ined, <i>Dentalium primum</i> , etc.....	10	00
Brown limestone.....	8	00
Warsaw division.....	4	00
Covered, to Walnut.....	15	00
	<hr/> 59	<hr/> 00

Of the above fossils the *Goniatites* were rare, and only imperfect specimens could be secured, as was also the case with *Nautilus decoratus*. *Nautilus coxanus* and *Dentalium* were common, but the *Orthocerata* could only be estimated by millions to the acre; collectively indicating that not only species but allied genera of these animals, as to-day, were gathered together, and either for mutual defense, favorite food or favorable-conditions they assembled in communities on the bottom of the sub-carboniferous ocean. This was the home of a race, for old and young, large and small individuals were found fixed in their stony matrix. It was interesting to notice the *Goniatites*, which began in the Devonian age, flourishing here amid his congeners, to survive the coal measure epoch, and culminate in later rocks, in his possible descendant the *Ammonite*.

On the Drew farm, northwest quarter of southeast quarter of section 16, township 14, range 4, a mile and a quarter north of town, an exposure was examined of the Warsaw division of the St. Louis limestone, only about six feet thick, but rich in the fossils so abundant at Spurgeon's Hill, in Washington county. The following are mentioned in the order in which they were found: *Pentremites conoideus*, *P. koninckianus*, *P. warsawiensis*, *Batocrinus icosodactylus*, *Platycrinus saffordi*, *Zaphrentis spinulifera*, *Syringopora ramulosus*, *Fistulopora*, *Sp. (?)*, *Archimedes oweni*, *Rotalia baylii*, *Productus punctatus*, *Athyris hirsuta*, *A. trinuclea*, *A. quadrata*, *Terebratula formosa*, *T. turgida*, *T. bevidens*, *T. hastata*, *Rhynchonella mutata*, *R. grosvenori*, *R. sub-cuneata*, *R. ricinola*, *Orthis dubia*, *Spirifer rostellatus*, *Eumetria verneuillanum*, *Myalina Sp. (?)*, *Allorisma Sp. (?)*, *Conocardium cuneatum*, *Streptorhynchus crenistriatus*, *Cythere carbonaria*, *Euomphalus spurgenensis*, *E. planospira*, *Nautilus Sp. (?)*, *Dentalium primum*, *Pleurotomaria*, 3 *Sp.*, *Murchisonia*, 2 *Sp.*, *Bellerophon sublævis*, *Phillipsia Sp. (?)*.

At the junction or crossing of the T. H. & I. with the L., N. & C. Railways, two miles southwest of Greencastle, the T. H. & I. R. R. works a good

quarry for the structures on that road. An extensive opening has been made with every requisite fixture. The following exposure is seen:

Section at Railroad Quarry.

	Feet.	Inches.
Clay covering.....	3 to	6 00
St. Louis cherty limestone.....	6 to	3 00
Bluish gray limestone.....	6	00
Dimension limestone.....	1	08
Dimension limestone.....	2	04
Building limestone.....		08
Building limestone.....		10
Dimension limestone.....	2	02
Dimension limestone.....	2	00
Dimension limestone.....	1	00
Dimension limestone.....	2	06
Hydraulic limestone.....	1	06
	<hr/>	<hr/>
	29	08

It will be seen that this stone is deposited in layers with perfect natural partings, suited to the probable demands of builders of the structures usual upon first-class railways. The product is well adapted to the purpose for which it is used.

In this quarry many well preserved and interesting fossils characteristic of the St. Louis group are found, including *Syringopora ramulosus*, *S. mult-attenuata*, *Zaphrentis spinulifera*, *Spirifer keokuk*, *S. rostellatus*, *S. setigerus*, *S. lateralis*, *Productus cora*, *P. punctatus*, *P. ovatus*, *P. semi-recticulatus*, *Athyris trinuclea*, *A. lammaellosa*, *A. hirsuta*, *Allorisma regularis*, *A. sinuata*, *Terebratula bovidens*, *Bellerophon hiulcus*, *Nautilus coxanus*, *Orthoceras winchelli*, *O. Sp. ?* and many shark's teeth. In the overlying loose deposit were noticed *Lithostro- tion mammillare*, and *L. proliferum*.

On the adjoining part of northeast quarter, section 32, township 14, range 4, belonging to the heirs of William Steeg, an extensive bed similar in stratification and fossil remains is worked for lime by H. C. Steeg, manager, employing a "perpetual burner" 32 feet high and 9 feet in diameter. The kiln contains 1,050 bushels and the calcined stone is drawn twice a day, giving a daily yield of 300 bushels. The capacity of the fixtures is for 90,000 bushels of lime per annum, but the maximum output has been 45,000 bushels for a single year. The lime sells for 12½ cents per bushel of 70 pounds, delivered on the cars. He also furnishes dimension stone.

The proprietor states that the soil of the Steeg farm was badly exhausted at the time of his purchase, but now enriched with refuse lime, gives fair returns, making a profit of 100 to 400 per cent. on the cost of lime applied. He uses 100 bushels per acre of old slacked lime, or 30 to 40 bushels of the same

freshly burned, and has used it on all the crops grown on the home farm of 120 acres with marked benefit. On a worn field sowed to wheat in the fall of 1879, six acres, part of a field was limed and produced 12 bushels to the acre, the balance, not limed, yielded only one and one-half bushels per acre. Sandy clays, as a rule, are most benefitted by an application of lime as manure.

At Oakalla, on the I. & St. L. R. R., five miles west of Greencastle, extensive beds have been opened, exposing strata admirably suited in thickness for dimension and rubble stone, for foundations, piers, etc. Where great strength is required to withstand the force of currents of water, floating ice, etc., it has been considered by builders and engineers of superior quality. The product has been used for bridge piers, culverts and foundations on the line of the I. & St. L. R. R., and a large demand has arisen from other points.

Eppinghausen & Johnson's quarry is just east of and adjoins the village, where the following strata are seen :

Section at Eppinghausen & Johnson's Quarry.

	Feet.	Inches.
Clay slope.....4 to	2	00
St. Louis limestone—laminated.....	8	00
Heavy bedded limestone.....	6	00
Buff—heavy limestone—fossils.....	7	00
Blue—strong limestone.....	1	04
Blue—building limestone.....	4	00
Lithographic limestone—angular argillite	3	06
Bridge limestone	3	00
Flinty bed, for rubble and rip-rap work.....	8	00
Magneso-argillaceous bed, filled with <i>Lithostrotion proliferum</i> , and plates and spines of <i>Archeocidaris norwoodi</i> to Walnut Creek	18	00
Total	60	10

Messrs. Eppinhausen & Johnson employ a “perpetual burner” kiln, 30 feet high, with an inside diameter of 8 feet, built of stone, which holds 700 bushels, giving a yield of 250 to 300 bushels of lime per day. Deducting for warm weather and accidents, the annual product is from 40,000 to 50,000 bushels. Their maximum sale was 52,000 bushels of lime in 1874. The lime is of the quality termed “hot” or “fiery,” and should be slacked and made into mortar two weeks before use, when it works “cool” and will not “pop” or “scale” the surface of plastering. The upper strata makes the coolest lime, and the lower ledges are chosen for masonry, rip-raps and metaling roads.

Torr Brothers have an extensive and well-appointed quarry, adjoining the latter on the east. They ship large amounts of lime, but give special attention to orders for dimension stone for heavy masonry.

Section at Torr Brothers' Quarry.

	Feet.	Inches.
Slope—loam	18	00
Sandstone	14	00
Cherty St. Louis limestone	4	00
Light gray limestone, in layers 4 to 10 inches.....	6	00
Blue limestone— <i>Productus</i>	1	08
Blue limestone, rich in shark's teeth, and spines with <i>Productus cora</i> , <i>P. punctatus</i> , <i>Spirifer keokuk</i> , <i>Athyris</i> <i>ambigua</i>	2	02
Lithographic stone.....	0	04
Blue limestone crowded with <i>Zaphrentis spinulifera</i>	0	08
Gray building limestone, with <i>Orthoceras</i> , <i>Spirifera</i> , <i>Pro-</i> <i>ducta</i> , <i>Athyris</i> , shark's teeth, etc.....	0	10
Gray dimension stone of superior quality, rich in above fossils.	2	04
Dark gray dimension stone, used for piers, with above fossils, and <i>Allorisma regularis</i> , and <i>Ariculopecten in-</i> <i>dianensis</i>	2	06
Blue hydraulic limestone.	1	06
White building stone without fossils, except flat teeth of sharks.....	6	00
Banded lithographic argillite.....	6	00
Heavy lithographic argillite.....	2	00
Light gray stone for calcining.....	5	00
Flinty limestone, with shark's teeth, crinoids and bry- ozoans.....	7	00
Buff magnesian limestone, <i>Lithostrotion proliferum</i>	5	00
Gray shale.....	2	00
Blue limestone to creek.....	10	00
Total.....	97	00

In this quarry all the foregoing strata, from the flinty bed at the top to the coarse stratum near the bottom, are utilized, yielding good lime and well-shaped blocks of dimension and rubble stone. The *Lithostrotium* bed is rich in calyces, clustered or solitary. Some of the latter ranged from small, to one foot long by an inch and a half in diameter at the cup.

The following additional fossils not in place were observed in the debris of the quarry: *Productus semi-reticulatus*, *P. punctatus*, *P. ovatus*, *Ariculopecten missouriensis*, *Scaphiocrinus* (indt), *Bellerophon hiulcus*, etc.

The face of the quarry presents an interesting exhibit of inequalities in the bottom of the sub-carboniferous ocean. The center is depressed about five feet in a worked face of two hundred feet.

Messrs. Torr calcine by a "perpetual burner" or kiln, twenty-nine feet high, with diameter of eight feet and capacity for 700 bushels of stone. The

out-put is 150 to 200 bushels of quick lime per day. Their kiln requires six barrels of coal to burn fourteen barrels, or twenty-eight bushels of stone. Lime sells for 12½ cents per bushel on the cars.

I am informed that there is a large amount, say 30,000 to 40,000 bushels, of slack or waste lime now unused, which could be furnished for the expense of loading. This invites the attention of farmers and owners of the sand prairies and clay loams of Vigo, Putnam and adjoining counties.

Moss & Hillis' quarry, half a mile east of Oakalla, turns out a large amount of lime. They employ a "perpetual" kiln or burner, suited for using coal, 27 feet high, with the oven 9 feet in diameter. The product is 150 to 200 bushels of lime per day, but their fixtures have a maximum capacity of 70,000 bushels per annum. The face of their quarry presents heavy bands of limestone from three to five feet thick, which "caps" and breaks in shapely blocks of dimension stone for piers and rubble masonry. Nearly every strata may be profitably calcined. The upper strata are rich in shark's teeth and spines.

Fern is a small telegraph station or passing switch of the I. & St. L. railroad a short distance west of Oakalla, surrounded by high hills and deep gorge-like valleys, walled with sandrock. It is a favorite pic nic ground. The precipitous rocky walls are covered with a beautiful and interesting variety of ferns, mosses and lichens, which invite and command the attention of the student and lover of the beautiful in nature.

Going north from Greencastle many outcrops and quarries of St. Louis limestone were observed, presenting ledges of rocks so similar to those already given that repetition is unnecessary. The surface outlook is characteristic of this limestone, and is plane on the plateaus or gently undulating, moulded into long rolls and slopes by the action of air and moisture during ages of time. The soil is a calcareous loam and was originally clothed with a stately forest, composed of oak, poplar, ash, walnut sugar, etc., trees which indicate and characterize the soil that produces them. The sharp cuts of the creeks and brooks where rocky exposures are seen, were exceptional scars on the face of nature so recent as to lack the healing and smoothing element of time.

From an elevation high enough to include the whole county from east to west the autumnal foliage would present north-south lines of brilliant colors, strongly marked and of magic splendor. At the time of my visit (Oct., 1880), the usual summer was followed by a warm, dry autumn, ripening the leaves of all the trees to full maturity before touched by frost. The eastern or Knobstone division of the county showed a back ground of the pale green of the beech, on which trembled as stars in the sky a never ending medley of

orange, straw, red and other neutral tints of their companions, with occasional clumps of gum, dogwood and maple to give vivacity to the modest scene. In the western or coal measure district, the background was the russet and brown of the oaks, flecked with strong blocks and lines of vivid colors. In the central or St. Louis division, both the other parts merged and mellowed their contrasting colors, uniting to crown every hill and deck every valley with a foliage that has never, can never, be painted or described; in which the scarlet, crimson and orange of the sugar and dogwood contrast in quivering life with gold, pink, green and russet of the elm, beech, oak, hickory, poplar and minor shrubs. It is not the display of a single tree or clump, but the whole woodland, united in a glorious blaze of untiring beauty. Soon the ground too is spread with a carpet of full ripened leaves, which with every breath of air is stirred into an ever-changing kaleidoscope of colors, the whole forming an attraction which would justify a long journey to witness and enjoy.

The forests and their beauty are interesting, but from a practical standpoint the natural growth of blue grass (*poa pratensis*) is more attractive. The soil is perfectly adapted to this grass, pushing it to green luxuriance with the first warmth of spring, to ripen in the plentiful season of summer; it springs to renewed growth with the fall rains and frosts of autumn, to remain green and nutritious during the winter. We can hardly conceive of a plant so universally useful and productive. The intelligent farmers and graziers of Putnam county fully appreciate its unrivaled qualities, and are well satisfied with their comfortable homes, productive farms and independent lives derived from this source.

The grazing farms of Messrs. Stevenson, Lockridge, Farrow, Bridges, Darnall, Fordyce, etc., etc., under the intelligent direction of their proprietors, are not only highly profitable and ornamental to the region, but serve as models that others may copy advantageously.

The St. Louis rocks of this central region furnish good stone for foundations and lime; heavy beds of limestone occur a mile north of Portland Mills, and thence to near Russellville, near the line of the I., D. & S. Railway; good outcrops of stone, which has been calcined, were observed on sections 30 and 31, township 16, range 5.

KEOKUK AND KNOBSTONE GROUPS.

The different strata of these groups form the surface rocks directly east of the St. Louis beds, beginning on a line drawn from near Fordyce's station, on the I., D. & S. railway, thence in general direction southeasterly to

the valley of Mill creek, in the township of that name. The soil formed from Keokuk rocks is very similar to that in the St. Louis group, but may often be recognized by a ruddy brown color. The surface underlain by Knobstone beds is flat and inclined to be wet, and until drained is better adapted to the growth of meadow grasses. When properly drained it produces the cereals well and the best of grasses.

The two groups are considered together for the reason that the total thickness of the Keokuk rocks does not exceed 80 feet, and the greatest single exposure of Knobstone beds was not over 35 feet. Hence from a connected description, a locality may be more easily recognized than if these groups were considered separately.

On the Fordyce farm, southeast quarter section 3, township 16, range 5, in the railway cut, and thence continued to the quarry in the valley, the following exposures were seen :

St. Louis-Keokuk Section.

(Fordyce Farm.)

	Feet.	Inches.
Modified drift.....	10 to 5	00
Glacial drift.....	20 to 6	00
St. Louis beds, shale and limestone with <i>Pentremites conoideus</i> , <i>Coscinium</i> Sp. (?) <i>Terebratula formosa</i> , <i>T. turgida</i>	3	00
Keokuk shaly limestone with <i>Zaphrentis dalii</i> , <i>Z. cornucopia</i> , <i>Aulopora gigas</i> , <i>Oligoperus nobilis</i> , <i>Actinocrinus</i> Sp. (?) <i>Pentremites woodmani</i> , <i>Spirifer keokuk</i> , <i>S. neglectus</i> , <i>S. pseudolineatus</i> , <i>Athyris hirsuta</i> , <i>A. sublamellosa</i> , <i>Productus cora</i> , <i>P. punctatus</i>	38	00
Heavy Keokuk limestone in quarry.....	2	06
Total	54	06

At Hicks' Mill, section 14, same town and range, the dam is built upon and against Knobstone beds, which are exposed in the bluff to a height of thirty-five feet, covered with material from the glacial drift, and fragments of Keokuk limestone. The Knobstone layers are shaly, and so pyritous that they are liable to split and disintegrate on exposure to the air.

An extensive quarry has been opened on Mrs. Cashew's land, south west quarter section 6, township 16, range 4, near Raccoon station, and immediately by the side of the railway track. The knob sandstone is here heavily banded, and is colored bluish gray, but soon weathers to buff. The strata dip, west 15°, south 165 feet to the mile. The following was taken :

Knobstone Section.

(Raccoon Station.)

	Feet.	Inches.
Buff Rubble stone.....	15	00
Heavy band, in layers.....	6	00
Massive ledge.....	4	04
Flags, for paving.....	1	00
Quarry floor.....	...	08
Total.....	27	00

This stone is readily split and works well. It was used in the construction of the piers for the railroad bridges over Walnut and Raccoon creeks, and for the coping of the Wabash bridge at Montezuma. The foundation of Brown & Boyd's elevator at Indianapolis, is also from this quarry.

Near the brick chapel on Robert Glover's land, an outcrop of Keokuk limestone was observed. It was crowded with stems of crinoids of species characteristic and peculiar to that group.

In an interesting valley on the Hillis farm, two and a-half miles north northeast of Greencastle, the junction of St. Louis and Keokuk, beds was observed.

Hillis Section.

	Feet.	Inches.
St. Louis limestone,—Warsaw division, with crinoid stems, <i>Productus punctatus</i> , <i>Streptorhynchus ctenistriatus</i> , and shark teeth	5	00
Shaly parting—pyritous.....	2	00
Argillaceous, St. Louis limestone	14	00
Blue slaty, St. Louis limestone	2	00
Keokuk limestone to brook with <i>Streptorhynchus crenistriatus</i> , <i>Productus cora</i> , <i>P. semi-reticulatus</i> , <i>Spirifer keokuk</i> , <i>S. striatus</i> , <i>S. lateralis</i> , <i>Orthis dubia</i> , <i>Terebratula trinuclea</i> , <i>T. hastata</i> , <i>Aulopora gigas</i> , <i>Zaphrentis dalii</i> , etc.	5	00
Total,	28	00

At the "stone cut" on the Louisville, New Albany and Chicago Railway, near Maple Grove Station, about four miles from Greencastle, is an interesting locality. Many well preserved shark's teeth have been here obtained, and the wonderful record of the glacial forces "graven on the rocks forever" has been already noticed. It also shows the junction of the Keokuk with the underlying Knobstone, beneath the railway bridge, in the bed of the creek; the last visible only at low water.

Keokuk-Knobstone Section.

(Stone Cut near Maple Grove.)

	Feet.	Inches.
Boulder clay.....	40	00
Keokuk limestone, planished and striated over fifty feet square, course of striæ from east 80° north...	9	00
Shaley clay.....	2	00
Argillaceous limestone with <i>Productus</i> , <i>Athyris</i> , <i>Streptorhynchus</i>	11	00
Heavy brown limestone, with <i>Ptilodictia carbonaria</i> , <i>Productus punctatus</i> , <i>P. costatus</i> , <i>P. semi-reticulatus</i> , <i>Streptorhynchus crenistriatus</i> , <i>Spirifer keokuk</i> , <i>S. striatus</i> , <i>S. pseudolineatus</i> , <i>S. Sp?</i> <i>Athyris sublamellosa</i> , <i>Terebratula hastata</i> , <i>Aviculopecten indianensis</i> . etc., etc.....	25	00
Knobstone shale in creek.....	2	00
Total.....	69	00

The foregoing Keokuk-Knobstone section is characteristic, and will, it is believed, enable students or citizens to recognize these formations when elsewhere exposed in the county.

ECONOMIC GEOLOGY.

The soils of the county and their different adaptations have been already considered. This county was settled and brought to cultivation over half a century ago. Good crops have been the rule, and many of the fields are still strong and fertile. This fertility may be perpetually continued by judicious culture of blue grass, or by a rotation of crops which makes clover an element; for clover is a safe and profitable reliance in western agriculture.

Less fertile or worn tracts, which have been robbed of soluble silica by wash of rains or long cultivation, may be quickly restored by the use of lime; most of the soils of this county, although underlaid by the parent stone, are deficient in lime. The abundance of this material, and the ease with which every log heap may be turned into a lime kiln, invites the use of this fertilizer.

EDUCATIONAL.

Asbury University was founded by the pioneer preachers of the Methodist Episcopal Church. It has time and again triumphed over difficulties overwhelming to hearts less brave, and now offers facilities for academic as well as collegiate education to both sexes. It has been a large source of profit to the neighboring farmers and gardeners, but of wider importance, it has been a fountain of intelligence and morality, which has strongly molded

the character of the neighboring citizens and directed their efforts for truth and right. The University, sharing in the laurels won by her sons in the forum, the pulpit and at the bar, may confidently expect richer support in the future.

School-houses are seen in every part of the county, and the common schools are almost academies in efficiency.

TIMBER.

The original forests are nearly gone, but large tracts have been preserved, which offer supplies of the best timber for home use and export. Oak, sugar-tree and hickory are most plenty, and of superior quality. Immense quantities of poplar and walnut lumber have been shipped and sold at good prices.

LIVE STOCK.

This department of husbandry is the pride of Putnam county. The citizens bringing with them from Kentucky the skill and experience of their Southern life—the brilliant memories of Kentucky achievements on field and turf—have fairly rivaled the triumphs of their old home. Good swine, sheep and horses are common, but their stately short-horns are equal to the best, and well repay for intelligent care, adorning every grazing farm with forms of beauty.

MANUFACTURERS.

Manufacturers are not as extensive as they should be. With cheap coal, plenty of timber and stone, home supplies of food, and a healthy, elevated situation, Greencastle and the county offers strong inducements for promoting industrial enterprises. The nail factory, grist, saw and planing mills, woollen factories, etc., are already firmly established; yet additional capital may be profitably invested.

WATER POWER.

Coal is cheap—water power is cheaper. The spring-fed streams offer favorable sites for mills, and factories not requiring heavy power, some of which are not now occupied.

GRAVEL AND STONE FOR ROADS.

Gravel sorted by fluvial action from the glacial drift is found along the principal streams and creeks in the northern part of the county. This is the best possible material for making wagon roads, and is easily accessible. In other parts limestone is found at short distances. Many good pikes are already constructed. More should be built, for there can be no complete

enjoyment of property and the fruits of labor, no just realization of a happy life, without fair commercial and social intercourse.

BUILDING STONE.

The quarries of building stone and their qualities have been already mentioned herein. The supply is without limit. Calls for any amount can be promptly met. Samples of all the different kinds may be seen in the public and private buildings of Greencastle, and the piers under the bridges of the pikes and railways. The sandstone beds have scarcely been opened. This rock could be relied upon for cheap material of great durability.

GLASS AND GRIT STONES.

Glass and grit stones occur at several localities in the Conglomerate. It is sufficiently free from iron to make fair glass. The grits should be utilized for grindstones and other domestic purposes.

BRICK CLAYS.

Clays suitable for brick are so common as scarcely to merit mention, but in the near future an extensive demand will arise. Superior loess clays are found on the I. & St. L. railroad, west of Oakalla, and at other points. Good potter's clay was noticed southwest of Cloverdale.

FRUIT.

Apples, pears and the small fruits are abundant. On all the high plateaus and especially on the elevated sharp ridges in the western parts, the trees are thrifty and bear well. The fruit fully matures and ripens to the brightest colors. The hill-tops west of Eel river offer situations where the effects of sudden cold snaps are mitigated by the surrounding deep valleys, and crops of apples are sure and profitable.

THANKS.

Acknowledgments are made to the citizens of the county for co-operation and assistance. Thanks are due to President Hammond for special favors of the I., D. & S. railroad, for transportation and advice. To Engineer Peck, of the same, for tables of altitudes on that line. To the faculty of Asbury, to Dr. Keightley, Allen Darnell, Hon. A. Daggy, Torr Bros., Hon. W. G. Neff, and others.

TABLE OF ALTITUDES.

MONROE AND PUTNAM COUNTIES, ETC.

The elevation of points on lines of railways which cross Putnam and Monroe counties, are given, with a few extra limital stations for comparison. The table of the Indianapolis, Decatur and Springfield is furnished by Engineer Peck. That of the Louisville, New Albany and Chicago is given by Marshal Morris, Engineer, and George M. Smith, Superintendent. Those on the Terre Haute and Indianapolis and Indianapolis and Richmond Railways are made from instrumental measurements on a profile of those lines and from statements furnished by Joshua Staples, Chief Engineer of Terre Haute and Indianapolis Railroad. They are given for the reason that they include so many points in counties reviewed in this report.

INDIANAPOLIS, DECATUR AND SPRINGFIELD RAILWAY.

	Feet Above Ocean.
Indianapolis Union Depot.....	721
Track at Eagle creek.....	745
Track at Mitchell's mill	811
Track at Marion and Hendricks county line.....	843
Track at Tyrone Station	884
Big White Lick creek.....	836
Track at White Lick creek... ..	867
Track at Second Principal Meridian.....	944
Track at Montclair.. ..	971
Track at North Salem	900
Eel river bottoms	859
Eel river bridge track	890
Track at Hendricks and Putnam county line.....	924
Track at Barnard—Fort Red.....	914
Track at Roachdale crossing	851
Raccoon creek valley.. ..	742
Track at Raccoon creek bridge	752
Track at Fordyce Station.....	868
Track at Russellville Station.....	859
Track at Putnam and Parke county line.....	790
Track at South Waveland.	801
Track at Guion, crossing of Logansport and Terre Haute Railroad.....	641
Little Raccoon valley.....	634
Track at Bethany	760

	Feet Above Ocean.
Track at Marshall.....	612
Track at Bloomington.....	656
Track at Montezuma.....	507
Surface of Wabash river at Montezuma.....	474
Hillsdale, crossing of Evansville, Terre Haute and Chicago Railroad.....	500
Hood's crossing, one mile east of Dana.....	662
Track at Dana.....	656
Track at Indiana and Illinois State line.....	641
Scotland, Illinois.....	641
Chrisman, crossing, P. & D. R. R., Illinois.....	661
Track at Cherry Point, Illinois.....	660
Track at Metcalf, Illinois.....	675
Track at Hume, Illinois.....	661
Track at Edgar and Douglas county line, Illinois.....	664
Track at Newman, Illinois.....	653
Track at one mile east of Camargo, Illinois.....	684
Track at Camargo, Illinois.....	651
Track at Tuscola, crossing, I. C. R. R., Illinois.....	665
Track at Douglas and Piatt county line, Atwood Station, Illinois.....	681
Track at Hammond, crossing, C. & P. R. R., Illinois.....	685
Track at Piatt and Macon county line, Illinois.....	740
Surface of Sangamon river.....	602
Decatur, crossing of Wabash and Illinois Central Railways, Illinois.....	676

TERRE HAUTE AND INDIANAPOLIS RAILROAD.

Track at Indianapolis depot.....	721
Track at Clayton Summit.....	906
Track at Fillmore.....	859
East line of Putnam county.....	897
Track at Greencastle depot.....	841
Track at junction with L. N. A. & C. Railway.....	776
Track at Hamricks.....	710
Track at Reelsville.....	645
Surface of Eel river at Reelsville.....	610
Track at west line of Putnam county.....	670
Track at Eaglesfield.....	692
Track at Brazil.....	649
Track at Terre Haute depot.....	498
Low water Wabash river, Terre Haute.....	451

INDIANAPOLIS AND RICHMOND RAILROAD.

(P. C. & St. L. R. R.)

Track at Indianapolis Depot.....	721
Track at Greenfield.....	906

	Feet Above Ocean.
Track at Knightstown.....	916
Summit east of Lewisville.....	1,143
Track at Dublin.....	1,066
Track at Cambridge City.....	949
Summit west of Centreville.....	1,084
Track at Centreville.....	1,008
Track at Richmond.....	972
Track at Ohio and Indiana State line.....	1,026

LOUISVILLE, NEW ALBANY AND CHICAGO RAILROAD.

(L., N. A. & C. R. R.)

Indianapolis, Union Depot.....	721
Low water, Ohio river, at New Albany..	365
Track at railroad depot.....	436
Track at New Providence.....	554
Track at top of knobs.	718
Track at Pekin.....	609
Track at Red Cut (25½ miles).....	835
Track at Harristown.....	875
Track at Salem depot.	717
Track at Smedley depot.	878
Track at Orleans.....	636
Track at Mitchell.....	665
Track at White river bridge	504
Track at Bedford.. ..	682
Track at Salt creek bridge.....	505
Water surface at Salt creek.....	471
Track at Harrodsburg.....	509
Track at Smithville.....	710
Track at Bloomington	745
Track at Bloomington Summit	883
Track at Ellettsville	685
Track at Gosport.....	574
Low water, White river at Gosport.....	557
Track at Quincy	752
Track at 129 miles, Putnam county	819
Track at Cloverdale	785
Track at Putnamville.....	690
Track at Greencastle Junction	776
Track at Greencastle L. & C. Depot.....	782
Track at Bainbridge	939
Track one mile north of Bainbridge (highest point on railroad).....	955
Track at Whitesville	877
Track at Crawfordsville depot.....	744

	Feet Above Ocean.
Track at Lafayette depot.....	553
Water surface of the Wabash at L., N. A. C. Ry. bridge.....	511
Track at Chalmers.....	710
Water surface of Kankakee river.....	674
Track at Westville	789
Track at Michigan City depot.....	601
Surface of Lake Michigan.....	585

GEOLOGY OF MONROE COUNTY.

BY GEORGE K. GREENE.

HISTORICAL.

Monroe county was named in honor of James Monroe, fifth President of the United States; and contains four hundred and twenty square miles, or two hundred and sixty-eight thousand, eight hundred acres. It is bounded on the north by Owen and Morgan; south by Lawrence; the east by Brown and Jackson; and west by Green and Owen counties.

The first settlement was made in the year 1816, by David and Jonathan Rogers, on the present site of Bloomington, the county seat—fifty-one miles south-southwest of Indianapolis—which was laid out in the year 1818, by Jonathan Nichols. The county was organized in the same year, the first circuit court being held in the open air. The present court house was built in year 1825.

The first settlers of Monroe county came from Grant and Clark counties of Indiana, and from Kentucky; and were soon increased in numbers by others from North and South Carolina, Virginia and Tennessee. Bloomington has now nearly four thousand inhabitants and is noted for its health, thrift and enterprise. It is situated on the Louisville, New Albany and Chicago Railway, one hundred miles north of Louisville, Ky., and, besides its many fine churches of various denominations, it contains the Indiana State University and many very substantial business houses enjoying a good and growing trade from the adjacent counties. It has two good flouring mills, one woollen mill, one steam furniture factory, one tannery, one spoke factory, one stave factory, one bent wood and stave factory, one foundry and machine shop, and plow factory, also one factory for jewelry and silverware.

The streets are wide and at right angles, well paved and adorned with numerous handsome dwellings. The city of Bloomington is 745 feet above the level of the sea.

STATE UNIVERSITY.

The State University and Preparatory College had an attendance last year of 341 students, viz: 161 at the former and 180 at the latter.

LIBRARY.

The library at present contains upwards of seven thousand volumes, more than a thousand of which have been added to it recently. The library room has also been greatly improved by additional shelving and the construction of a commodious gallery.

MUSEUM.

The museum has been thoroughly rearranged, and, in addition to the Owen collection and the Ward series of casts of fossils, many other objects of special interest to students and lovers of the science of geology have been lately added. The collection now numbers over one hundred thousand specimens of fossils and minerals, so completely arranged in accordance with their geological position that it is but the work of a moment to find any specimen desired. All the geological horizons of Europe are represented, and amongst the most notable is the original specimen of the *Ichthyosaurus communis*, from Boll, Wurtemberg, Germany, the largest and finest specimen of the kind ever found. Also the large fossil turtles (*Testudo oweni*) from the "Bad Lands" of Nebraska, figured in the Geological Reports of Iowa, Wisconsin and Minnesota, and all the other typical specimens figured by Dr. David Dale Owen in the same report; likewise the typical specimens figured by Professors Richard Owen and E. T. Cox in the Second Arkansas Report. They have been carefully arranged in separate cases. Also, nearly the entire skeleton of a *Megalonyx jeffersoni*, found near Henderson, Kentucky, and a remarkably fine half of a lower jaw, with the teeth attached, of the *Mastodon giganteus*, from Drennon Springs, Kentucky, found, mounted and presented to the museum by Prof. Richard Owen.

The Ward series of casts includes *Megatherium cuvieri*, *Mastodon giganteus*, *Glyptodon clavipes*, *Dinotherium giganteus*, and the *Colossuchelys atlas*, the large turtle from the Sewalik Hills, India.

Considered as a whole; this magnificent collection offers a rich and rare intellectual repast, such as is seldom within the reach of those who can enjoy it best. To appreciate it properly, time is an essential element, and the careful student will never weary of examining and studying the wonderful and inexhaustible treasures of nature which are here displayed.

MINERALOGICAL.

The Mineralogical Department contains full suits of all the metallic ores, and is especially rich in rare specimens of *Gold*, *Platinum*, *Silver*, *Titanium*, *Iridium*, *Osmium*, *Tellurium*, *Yttrium*, *Rhodium*, *Cerium*, *Thorium*, and *Cadmium*. Also in such precious stones as the *Ruby*, *Emerald*, *Diamond*, *Garnet*, *Amethyst*, *Topaz* and *Carnelian*.

LABORATORY.

The laboratory, adjoining the museum, will readily accommodate forty students in qualitative analysis. The room on the second floor devoted to quantitative analysis has liberal accommodation for seven or eight students. Both laboratories are supplied with water, gas, hoods and all other requirements and conveniences. Adjoining the latter will be found the scale-room, which is liberally supplied with balances and all other essentials for the special use of advanced scholars. Full courses of lectures are given on qualitative, quantitative and blow-pipe analysis. The lecture room has been thoroughly remodeled, with raised seats, and will now seat seventy students comfortably. Apart from these there is another laboratory, skillfully constructed and arranged, specially fitted up for the use of students operating with the poisonous gases.

CAMPUS.

The spacious and beautiful campus has also shared in the general renovation, and is now entirely cleared of the old dead or dying trees which heretofore have so sensibly impaired its beauty. New trees have been planted and are growing vigorously; and, now, a representative of every species of the forest trees in the State of Indiana can be found upon the campus.

THE FACULTY.

LEMUEL MOSS, D. D., President, Professor of Mental, Moral and Political Philosophy.

THEOPHILUS A. WYLIE, D. D., Professor of Natural Philosophy.

DAVID S. JORDAN, M. D., Ph. D., Professor of Natural Science.

DANIEL KIRKWOOD, LL. D., Professor of Mathematics.

WALTER R. HOUGHTON, A. M., Principal of the Preparatory Department.

AMZI ATWATER, A. M., Professor of Latin Language and Literature.

GEORGE W. HOSS, LL. D., Professor of the English Language, Literature and Elocution.

THOMAS C. VAN NUYS, M. D., Professor of Chemistry.

HERMANN B. BOISEN, A. M., Professor of Modern Languages.

ORRIN B. CLARK, A. M., Professor of the Greek Language and Literature.

JOHN G. NEWKIRK, A. M., LL. D., Professor of History.

S. BROWN WYLIE, A. B., Assistant in the Department of Physics and Chemistry.

CHARLES H. GILBERT, B. S., Assistant in the Department of Natural Science.

COLLEGE OFFICERS.

Lemuel Moss.....	President.
Amzi Atwater.....	Secretary of the Faculty of Arts.
T. A. Wylie	Librarian.
D. S. Jordan	Curator of the Museum.
Thomas Spicer.....	Janitor.

COLLEGIATE DEPARTMENT.

Faculty of Arts.

Lemuel Moss, <i>President</i> ,	George W. Hoss,
Theophilus A. Brown,	Thomas C. Van Nuys,
David S. Jordan,	Hermann B. Boisen,
Daniel Kirkwood,	Orrin B. Clark,
Amzi Atwater,	S. Brown Wylie.

BOARD OF TRUSTEES.

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President	Addison L. Roache.
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Under the flattering auspices of this able board of trustees, and a faculty adorned by the names of men long famous in their departments of science, both at home and abroad, we feel that it is safe to predict a grander future for our State University, and even a prouder record than that achieved in its honorable and illustrious past. The incubus of debt which so long pressed upon its vitals has been removed, and it is now free to pursue that high and noble career of usefulness for which it was designed by its original founders.

PALEOZOIC GEOLOGY.

SUB-CARBONIFEROUS.

CHESTER SANDSTONE.

The Chester sandstone appears in Bean Blossom township near the Owen county line and extends south through Richland, Van Buren and Indian Creek townships, overlying the upper Saint Louis group of rocks.

At Stanford, and also at Buena Vista, the Chester sandstone is the surface rock. This group consists of bright red and of light grey laminated sandstone; generally irregularly bedded and ferruginous.

The iron ore deposits of Indian Creek township belong to this group.

UPPER ST. LOUIS GROUP.

The upper St. Louis group of rocks enter the county near the line of Monroe and Owen counties running south through Bean Blossom, Richland, Bloomington, Van Buren and Indian Creek townships.

The rocks of this group, wherever they are exposed in Monroe county, are of a light grey color, regularly bedded, hard, silicious limestone; closely approaching in appearance and character to the lithographic limestone of Harrison county, and in some places contain a few fossils highly silicified.

LOWER ST. LOUIS GROUP.

Warsaw Division.

The lower St. Louis group of rocks lap up against the Keokuk group west of Wayport in Washington township, and run south through Bloomington township, cropping out on the hills north and east of the city of Bloomington; thence south they come to view as the surface rock at Smithville and also at Harrodsburgh.

This division is composed of limestone, chert and earthy layers. The famous building stone of Ellettsville, Stinesville, Bloomington, Bedford, Salem and Stockslagers in Harrison county, belongs to this division and is identical with the Oolitic limestone at Spurgeon Hill, so well known to collectors, for the immense number of finely preserved fossils contained.

The earthy and cherty layers contain irregular masses of chert, chert-boulders and claystones. These claystones frequently owe their origin to the presence of minute marine organisms which, upon decomposition, have furnished a nucleus for the aggregation of silicious matter.

KNOBSTONE AND KEOKUK GROUPS.

The Knobstone and Keokuk groups of rocks enter Monroe county from Morgan on the north, and from Brown on the east; their western limits extending southward, appearing in Washington, Bloomington, Perry and Clear Creek townships.

The Keokuk group consists of a buff-colored limestone, with bands of chert and geodes; gray and bluish gray limestone, in the order named. The gray limestone is usually free from fossils. The bluish-gray limestone, however, is very fossiliferous, even in the partings which are quite numerous and from a few inches to three feet in thickness. The fossils found in the partings are notable for their fine state of preservation.

The Knobstone group consists of shales and sandstone. These shales are either of a bluish-gray or of buff color, and contain slight traces of the sulphate of lime and also of the sulphuret of iron. They also contain numerous fossils or internal casts, generally found in a silicified condition. In some localities great quantities of geodes occur from one to twelve inches in diameter, having their cavities filled with quartz and calcareous spar. The sandstone is either of a dark red, gray or buff color with horizontal partings ranging from a few inches to six feet in thickness.

GENERAL SECTION OF MONROE COUNTY.

	Feet.	Inches.
Chester sandstone and iron ore deposits.....	65	00
Upper St. Louis limestone and cherty layers.....	35	00
Lower St. Louis limestone—Warsaw division.....	45	00
Keokuk limestone—buff colored.....	7	00
Keokuk limestone—light or bluish gray.....	23	00
Knob sandstone.	70	00
Knob shale—blue and buff colored.....	130	00
Total.....	375	00

WASHINGTON TOWNSHIP.

Section one-half mile northwest from Wayport.

Cherty and earthy layers.....	12	00
Lower St. Louis limestone.....	15	00
Limestone (Keokuk), light grey, containing with stems and plates of crinoids, <i>Aulopora gigas</i> , <i>Zaphrentis dialii</i> , <i>Z. cornucopia</i> , <i>Actinocrinus ramulosus</i> and basal plates of <i>A. lowi</i>	8	00
Limestone (Keokuk), buff colored.....	12	00
Knob sandstone, with partings.....	30	00
Knob shale, with <i>Hemipronites cremstriatus</i> , <i>Spirifer carteri</i> , <i>Chondrites colletti</i> and <i>Vermiform fucoides</i>	40	00
Total.....	117	00

In the cherty and earthy layers numerous fragments of *Lithostrotion mamillare* and *L. proliferum* were seen. In a good condition the following fossils may be readily found, viz.: *Athyris trinuclea*, *A. hirsuta*, *A. lammellosa*, *Eumetria verneuilliana*, *Rhynchonella mutata*, *R. grosvenori*, *R. ricinula*, *R. sub cuneata*, *Terebratula bovidens*, *T. formosa*, *T. urgida*, *Sphenophoterium cuneata*, *Conocardium cuneata*, Plates of *Pentremites obliquatus* and *P. varsovienensis*; also more perfectly preserved *P. conoideus*, *P. koninckianus*, *Batocrinus icosidactylus*, *B. irregularis*, *Alloprosallocrinus conicus*, *Dicocrinus constrictus*, *D. simplex*, bases of *Platycrinus saffordi*, *Syringopora ramulosa*, *S. multattenuata*, fragments of *Cosciniium wortheni* and also of *C. michelinia*. Going northeast from Wayport, toward Hindostan, the surface rocks are of the Knobstone and Keokuk groups.

Mr. I. N. Corr, of Hindostan, has a good collection of crinoids from these beds in this locality. Among them the *Actinocrinus gouldi*, *A. lowei*, *A. humboldti*, *A. ramulosus*, *A. equalis*, *A. biturbinatus*, *Granatocrinus granulosus*, *G. ficus*, identical with those from the Burlington group. Also, *Pentremites burlingtonensis*. These are the only specimens I have seen from the Hindostan beds that are to be found at Burlington, Iowa. In the same collection he has the following fossils, viz.: *Spirifer carteri*, *S. pseudolineatus*, *S. neglectus*, *S. keokuk*, *S. fastigatus*, *Pleuronomaria shumardi*, Plates of *Archaeocidaris wortheni*, *Aviculopecten winchelli*, *Conularia sub carbonaria*, *Pinna sub spatulata*, *Platyceras equilatera*, *P. infundibulum*, *Phillipsia bufo*, *Productus punctatus* and *P. altonensis*. Dr. A. E. Farr, of Hindostan, very kindly presented to me, for the State Museum, two very fine large crinoids of the species *Actinocrinus humboldti* and *A. lowii*.

Section at Hindostan.

	Feet.	Inches.
Earthy layers containing geodes.....	6	00
Limestone (Keokuk), dark gray.....	20	00
Limestone (Keokuk), light gray.....	10	00
Limestone (Keokuk), buff, fossiliferous.....	10	00
Clay, buff color, with geodes and stems and plates of crinoids.....	6	00
Limestone (Keokuk), buff color.....	10	00
Knob sandstone.....	20	00
Knob shale, containing <i>Chondrites colletti</i> and <i>Vermiform fucoids</i>	60	00
Total.....	142	00

Section on Bryant's Creek.

Section 2, township 10, range 1 west.

Surface soil of a creamy color.....	6	00
Limestone (Keokuk), dark blue.....	8	00

	Feet.	Inches.
Limestone (Keokuk), light gray.....	10	00
Limestone (Keokuk), buff, with bands of chert and geodes.....	6	00
Knob sandstone, with partings.....	20	00
Knob shale, containing <i>Vermiform fucoids</i> , <i>Hemipronites</i> <i>crenistriatus</i> , and casts of <i>Spirifer carteri</i>	80	00
Total	130	00

In the above dark blue Keokuk limestone the fossils were firmly imbedded and inaccessible to me, but enough of fragments sufficiently preserved were found to easily identify the following, viz: *Zaphrentis dalii*, *Z. cornucopia*, *Spirifer pseudolineatas*, *S. fastigatus*, single valves of *S. neglectus*, stems of *Scaphiocrinus*, stems and plates of *Actinocrinus lowei*, and *A. pernodosus*.

Section on Higgins' Branch.

Section 23, township 10, range 1 west.

	Feet.	Inches.
Earthy layers.....	12	00
Knob sandstones, irregularly bedded.....	40	00
Knob shale, containing the following geodized fossils: <i>Spirifer carteri</i> , <i>S. neglectus</i> , <i>Hemipronites crenistria-</i> <i>tus</i> ; also geodes containing chalcedony, botrioidal geodes and mammillated geodes, remarkable for their size and beauty.....	80	00
Total	132	00

MARION TOWNSHIP.

Section 4, Township 10, Range 1 East.

	Feet.	Inches.
Ferruginous clay soil.....	6	00
Limestone (Keokuk), dark blue.....	7	00
Clay parting, bluish gray.....	1	00
Limestone (Keokuk), light gray	5	00
Total	19	00

At the junction of the county roads, one-fourth of a mile southwest of Monroe's mill, on Hacker's creek, the creek bed and banks are thickly strewn with granite boulders, of various sizes, to the county line, which was as far as my observation extended. Some beautiful specimens of sienite, greenstone, quartzite and flesh-colored feldspar were found.

On the Mahalasville road, one mile east from Monroe's mill, the Knobstone group is one hundred feet in thickness, ten feet of which at its lower edge consists of clay concretions in globular and oval masses ranging from

ten to thirty inches in diameter. These are firmly packed together by the weight of the superincumbent mass. In the branch at the foot of the hill are a number of granitic boulders, varying in size from a few inches to more than one foot in diameter.

Three and one-half miles northeast of Monroe's mills, in a ravine running from Low Gap to Roberts creek, several large granitic boulders may be seen, one of which is at least three feet in diameter above ground; its vertical exposure is thirty-eight inches. No boulders are found south of Low Gap, in Marion township, except those which have evidently come from Brown county, through Wolf and Honey creeks; while on Honey creek black sand (magnetic iron ore) was noticed in several places, the same as the gold-bearing sand of Bear creek, in Brown county. Honey creek enters Marion township on the east side, three miles south of the Morgan county line. Its bed is very thickly strewn with granitic boulders for several miles; these range from one to ten inches in diameter. All along its course beautiful geodes are found in great abundance, and the following finely geodized fossils, viz: *Hemipronites crenistriatus*, *Chondrites colletti*, *Spirifer carteri*, *S. neglectus*, Vermiform Fucoids and *Pentagonals*. For the latter the name *Geodocrinus Indianensis* is proposed. They are of various colors, from a dark gray to a light amber, and from one to seven inches in length. They doubtless owe their origin to some marine organism.

Mr. I. W. Corr, of Hindostan, has some very interesting specimens from this locality, among which, worthy of special notice, are several large geodized crinoids showing all the plates, with silica filling the interstices between the plates; one fine *Actinocrinus lowei*, *A. gouldi*, *Pleurotomaria Sp?* and *Philipsia bufo*.

On Wolf creek, a small stream heading in Brown county, black sand similar to that noted on Honey creek, was found.

Mr. Thomas Bates, who lives on the dividing ridge between Honey and Wolf creeks, has some very fine specimens of *Actinocrinus humboldti*, *A. lagunculus*, *A. equalis*, *A. biturbinatus*, *Platycrinus Sp?* *Pleurotomaria Sp?* and a magnificent large dark amber colored *pentagonal geode*, weighing about ten pounds.

BENTON TOWNSHIP.

Section at Unionville.

	Feet.	Inches.
Earthy layers, containing geodes and the following fossils: <i>Zaphrentis dali</i> , <i>Z. cornucopia</i> , and plates and stems of crinoids.....	8	00
Limestone—Keokuk, bluish gray, containing a few internal casts of <i>Spirifer neglectus</i> , <i>S. fastigatus</i> , and <i>Zaphrentis dali</i>	6	00

	Feet.	Inches.
Limestone—Keokuk, light gray.....	4	00
Limestone—Keokuk, buff color.....	6	00
Total.....	24	00

Section ———

(Section 8, township 9, range 1 east.)

	Feet.	Inches.
Earthy layers containing geodes and irregular masses of chert.....	6	00
Limestone—Keokuk, bluish gray with partings.....	10	00
Total.....	16	00

Here was found the following fossils, not however, in a very good condition, viz: *Forbeseocrinus multibrachiatus*, *Dichocrinus sculptus*, *Actinocrinus ramulosus*; plates of *A. humboldti*; and *A. lowei*. The following specimens from the same locality may be seen at the State University, namely: *Platycerus equilateralis*, *Productus punctatus*, *P. cora*, *Spirifer tenuistriatus*, *S. fastigatus* and *S. neglectus*. On Stephen's creek, geodes with crystals of dog-tooth and calcareous spar may be found. Occasionally large geodized crinoids of the the species *Actinocrinus humboldti*; *A. lower Hemi pronites crenistriatus*, *Spini fer carteri*; *S. tenuistriatus*, and some fine pentagonal *Geodoorinus indianensis*.

SALT CREEK TOWNSHIP.

(Section 27, township 8, range 1 east.)

	Feet.	Inches.
Clay soil, buff colored, very productive.....	6	00
Limestone, Keokuk, dark gray, containing <i>Zaphrentis dalii</i> , <i>Z. cornucopia</i> , <i>Actinocrinus equalis</i> , <i>A. ramulosus</i> , <i>Spirifer fastigatus</i> , <i>Productus punctatus</i> , <i>Platyceras equilateralis</i> , and fragments of <i>Pentremites woodmani</i>	7	00
Limestone, Keokuk, light gray.....	8	00
Limestone, Keokuk, buff color.....	10	00
Knob sandstone, irregularly bedded.....	40	00
Knob shale.....	180	00
Total.....	151	00

POLK TOWNSHIP.

Section on Gabe's Farm.

(Section 3, township 7, range 1 east.)

	Feet.	Inches.
Earthy layers containing geodes.....	6	00
Limestone, Keokuk, dark blue.....	10	00

	Feet.	Inches.
Knob sandstone, irregularly bedded.....	40	00
Knob shale.....	120	00
Total.....	176	00

CLEAR CREEK TOWNSHIP.

(Section 2, township 7, range 1 west.)

	Feet.	Inches.
Argillaceous layers.....	12	00
Limestone, Keokuk, dark blue, with partings.....	12	00
Limestone, Keokuk, light gray, without fossils, save in a fragmentary condition.....	4	00
Limestone, Keokuk, buff colored with seams of chert and geodes.....	8	00
Knob sandstone, irregularly imbedded.....	30	00
Knob shale.....	70	00
Total.....	136	00

The argillaceous layers contain geodes and the following fossils, viz.: *Spirifer tenuistriatus*, *S. keokuk*, *S. fastigatus*, *S. pseudolineatus*, *Zaphrentis daili*, *Z. cornucopia*, *Productus punctatus*, *P. cora*, *P. altonensis*, *Actinocrinus lowei*, *A. lagunculus*, *A. pernodosus*, plates of *A. humboldti* and fragments of *Agaricocrinus tuberosus*, stems and plates of *Platycrinus*, also stems of *Scaphiocrinus* and good specimens of *Geodocrinus indianensis*.

Approaching Smithville from the east the Keokuk limestone becomes more massive and is overlaid by the Warsaw Division of the Lower St. Louis group.

SECTION ON FEE'S FARM.

(Section 10, town 7, range 1 west.)

	Feet.	Inches.
Argillaceous and cherty layers.....	10	00
Limestone (Warsaw Division), Lower St. Louis.....	25	00
Limestone (Keokuk), light grey, with partings.....	15	00
Total.....	50	00

These cherty layers contain *Lithostrotion mammillare*, *L. proliferum*, *Dichocrinus simplex*, *D. constrictus*, Plates of *Barycrinus*, Bases of *Platycrinus saffordi*, *Pentremiles conoideus*, *P. koninckiana*, Plates of *P. obliquatus*, Plates of *P. varsouvienensis*, *Spirifer lateralis*, *S. setigerus*, *S. rostellatus*, *Orthis dubia*, *Athyris hirsuta*, *A. lamellosa*, *A. trinuclea*, *A. roysii*, *Productus altonensis*, *P. punctatus*, *Rhynchonella mutata*, *R. grosevenori*, *R. sub cuneato*, *R. ricunula*, *R. macra*, *Terebratulula boydens*, *T. turigida*, *T. formosa*, *Sphenophoterium cuneata*, *Syringopora ramulosa*, *S. multattanuata* and *Eumetria verneuilliana*.

The upper portion of the Warsaw division is a soft, friable, light-colored Oolitic limestone, containing fossils identical with those so numerous at Spurgen

Hill, as *Enomphalus planispira*, *E. spurgenensis*, *Rhynchonella subcuneata*, *R. grosveneri*, *Pentremites conoideus*, *P. koninckiana*, *Terebratula formosa*, *T. bovidens*, *Dichocrinus simplex*, and *Eumetria verneuilliana*.

In the partings of the light-gray Keokuk limestone are the following fossils : *Spirifer multilineatus*, *S. pseudolineatus*, *S. fastigatus*, *S. keokuk*, *Productus cora*, *P. punctatus*, *Platyceras infundibulum*, *P. equilateralis* ; plates of *Pentremites woodmani*, *Actinocrinus*, *ramulosus*, *A. biturbinatus* ; stems of *Scaphiocrinus*, and plates of *Platycrinus*, *Sp.?* Here, among fragments of fish-teeth, one tooth was found which was remarkable for its size and finely preserved condition.

These beds, and the locality east of Smithville, are very fossiliferous. Unfortunately they had been thoroughly overhauled by professional collectors just before my arrival, so that most of the specimens procured were mere fragments, although sufficiently preserved for accurate identification.

Section at Harrodsburgh.

	Feet.	Inches.
Ferruginous clay soil—suitable for bricks.....	4	00
Chert and earthy layers.....	6	00
Limestone, Warsaw division, lower St. Louis group.....	15	00
Limestone (Keokuk) dark-blue.....	10	00
Limestone (Keokuk) light-gray.....	12	00
Knobstone group.....	120	00
Total.....	167	00

Section at Harrodsburgh Depot—East Side.

	Feet.	Inches.
Argillaceous and cherty layers.....	6	00
Limestone with partings, Warsaw division, lower St. Louis	17	00
Limestone (Keokuk) dark and light-blue.....	38	00
Limestone (Keokuk) light-gray, containing <i>Spirifer keokuk</i> , <i>S. fastigatus</i> , and <i>Actinocrinus lagunculus</i>	6	00
Limestone (Keokuk) buff color, with bands of chert and geodes, the cavities of which are lined with beautiful crystals of quartz and calcareous spar. This strata con- tains plates and stems of crinoids; also fragments of shells, too imperfect, however, for accurate identification	8	00
Knobstone group.....	60	00
Total.....	135	00

Section at Quarry.

(Half mile southeast of Fairfax.)

	Feet.	Inches.
Bluish clay soil.....	6	00
Knob sandstone with partings.....	16	00
Knob shale.....	6	00
Total.....	28	00

The abutments of the new bridge crossing Salt creek, at Fairfax, are built of stone from the above quarry. The knob shale of this locality is almost destitute of fossils. Only a few impressions of *Vermiform fucoids* and *Hemipronites crenistriatus* were seen.

BLOOMINGTON TOWNSHIP.

Section at Gray's Mill.

(Section 2, township 9, range 1 west.)

	Feet.	Inches.
Dark, loamy soil.....	4	00
Knob sandstone, massive.....	30	00
Knob shale.....	40	00
	—	—
Total.....	74	00

This is the only instance, in Monroe county, where the Knob sandstone is so massive.

The stone used in the abutments of the new bridge crossing Bean Blossom creek at Gray's mill is of a dark red color, due to the presence of iron. It is coarse-grained, very hard and durable, and was taken from a quarry one mile northwest of Gray's mill.

Section at Dunn's Quarry.

(Half a mile east of the city of Bloomington.)

	Feet.	Inches.
Ferruginous clay soil.....	4	00
Limestone, Warsaw division, lower St. Louis group, coarse grained and good for rubble masonry.....	5	00
Limestone, Warsaw division, light gray, fine grained, remarkably free from fossils, works freely under the chisel, bleaches white and hardens on exposure.....	6	00
Limestone, Warsaw division, lower St. Louis group, light gray in color, containing numerous small fossils (Spurgeon hill) highly silicified. This stone is too hard to be worked under saw or chisel advantageously, but is well adapted for rubble work in foundations and bridges.....	5	00
	—	—
Total.....	20	00

Section at Railroad Cut.

(L., N. A. & C. R. R., one mile northwest of Bloomington.)

	Feet.	Inches.
Chert and argillaceous layers, containing <i>Athyris trinuclea</i> , <i>A. hirsuta</i> , <i>Zaphrentis spinulosa</i> , <i>Pentremites conoideus</i> , <i>P. koninckiana</i> , <i>Bellerophon sublaevis</i> , <i>Dichoerinus constrictus</i> , <i>D. simplex</i> , fragments of <i>Lithostrotian mammillare</i> and <i>L. proliferum</i>	10	00

	Feet.	Inches
Limestone (upper St. Louis group) dark gray, hard and siliceous, closely resembling lithographic limestone, and containing <i>Terebratula bovidens</i> , <i>T. turgida</i> , <i>Athyris trinuclea</i> , <i>Syringopora multattenuata</i> and fish remains of the species <i>Palæoniscus</i> . One in a perfect condition, anatomically, may be seen in the Museum of the State University; another, in like condition, was found by Prof. Wylie. Both specimens were found at this place.....	10	00
Limestone (upper St. Louis group), light gray, hard and siliceous, weathering to a buff color under exposure to the action of the atmosphere, with horizontal partings.	25	00
Total.....	45	00

BEAN BLOSSOM TOWNSHIP.

Section at Big Creek Quarry, one mile west of Stinesville.

	Feet.	Inches.
Limestone (Warsaw Division, lower St. Louis group), light gray, clouded with bluish gray streaks, pleasing to the eye and susceptible of a high polish. It is excellently suited for interior decorations and monumental work generally, as may be seen at Stinesville, where Messrs. Hoadley & Litton have a turning lathe and saws in successful operation. This is a valuable bed of limestone, and quite accessible.....	4	00
Limestone (Warsaw Division, lower St. Louis group), coarse grained, light blue color, containing <i>Nautilus collectus</i> , <i>Bellerophon sublævis</i> , <i>Enomphalus planispira</i> , <i>E. spurgeonensis</i> , <i>Terebratula bovidens</i> , <i>T. formosa</i> , <i>T. sub cuneata</i> , <i>Rhychonella mutata</i> and <i>R. grosvenori</i>	2	00
Limestone (Warsaw Division, lower St. Louis group), light gray color, soft and easily worked, hardens on exposure, and is entirely without fossils.....	6	00
Limestone (Warsaw Division, lower St. Louis group), dark gray in color, very hard, and containing numerous small fossils highly silicified.....	8	00
Total.....	20	00

Section at McHenry's Quarry, half a mile west of Stinesville.

	Feet.	Inches.
Chert and argillaceous layers.....	8	00
Limestone (Warsaw Division, lower St. Louis group), light gray, fine grained, easily worked, without fossils, bleaches white and hardens on exposure. This stone is regularly bedded and accessible.....	15	00
Limestone (Warsaw Division, lower St. Louis group), dark gray, coarse grained and containing fossils silicified.	6	00
Total.....	29	00

Section at Davis & Cosner's Quarry, adjoining McHenry's Quarry on the north.

	Feet.	Inches.
Ferruginous clay, chert and argillaceous layers.....	8	00
Limestone (Warsaw Division, lower St. Louis group), dark gray, coarse grained, hard, water worn, contain- ing numerous fossils in a silicified condition.....	4	00
Limestone (Warsaw Division, lower St. Louis group), light gray, fine grained, free of fossils and without partings or seams.....	30	00
Limestone (Warsaw Division, lower St. Louis group), dark gray, with numerous small (Spurgeon Hill) fossils	6	00
Total....	48	00

Messrs. Baker & Pugh have a well appointed steam saw-mill in operation at Stinesville, employing twenty men sawing stone brought from these three quarries. They are now busy filling their contract for sawed and cut stone to be used in the new court house of Parke county.

Section at Allen's farm, on the Spencer road, three miles northwest of Ellettsville.

Section 31, town 10, range 2, west.

	Feet.	Inches.
Arenaceous soil.....	4	00
Chester sandstone, irregularly bedded unfossiliferous.....	40	00
Argillaceous and cherty layers, containing <i>Zaphrentis spinu-</i> <i>losa</i> , <i>Athyris trinuclea</i> , <i>A. lamellosa</i> ; spines and plates of <i>Archæcidaris Sp.?</i> <i>Syringopora multattenuata</i> , <i>Lithostrotion</i> <i>mammillare</i> , and fragments of <i>L. proliferum</i>	10	00
Limestone, upper St. Louis group, light-gray, hard, silice- ous and regularly bedded.....	40	00
Total.....	94	00

RICHLAND TOWNSHIP.

Section at Perry Brothers' Quarry, one and a half miles north of Ellettsville.

	Feet.	Inches.
Clayey soil.....	4	00
Limestone—Warsaw division, lower St. Louis group—dark- gray, shaly and siliceous, containing the following fos- sils, viz.: <i>Nautilus collectus</i> , <i>Bellerophon sublaevis</i> , <i>Ortho-</i> <i>ceras Sp.?</i> <i>Pleurotomaria wortheni</i> , <i>Terebratula formosa</i> , <i>T.</i> <i>turgida</i> , <i>Pentremites conoideus</i> and <i>P. varsouviensis</i>	8	00
Limestone—Warsaw division, lower St. Louis group—light- gray, fine grained, Oolitic, entirely without fossils.....	10	00
Limestone—Warsaw division, lower St. Louis group—dark- gray, very hard siliceous, Oolitic, containing fossils of the Spurgeon Hill varieties.....	2	00

	Feet. Inches.	
Limestone—Warsaw division, lower St. Louis group—light-gray, Oolitic, free from fossils, with a vein of <i>Stylo-lites</i> (called “toe-nails” by quarrymen) running through it horizontally.....	16	00
Limestone—Warsaw division, lower St. Louis group—dark-blue, Oolitic, remarkably free from fossils and susceptible of a good polish.....	8	00
Total.....	48	00

Perry Bros. have an excellently arranged steam saw-mill, and are well supplied with all the necessary apparatus and modern improvements for moving large blocks. Their usual working force is from forty to sixty men.

Section at Matthews & Son's Quarry, one mile north of Ellettsville.

	Feet. Inches.	
Ferruginous clay soil.....	5	00
Limestone—Warsaw division, lower St. Louis group—light grey, Oolitic, coarse grained and fossiliferous.....	6	00
Limestone—Warsaw division, lower St. Louis group—light grey, fine grained, regularly bedded, Oolitic, without fossils	16	00
Total	27	00

John Matthews & Son have a well arranged steam saw mill and steam channelling machine, besides all other necessary apparatus to facilitate the heaviest operations in their line of business. Their working force is usually from sixty to seventy men. They are now working another quarry nearer town, which, upon examination, was found to be substantially the same in stratification as the one given above; therefore, the section made of it is omitted.

Section at Sharp & Hight's Quarry, one mile north of Ellettsville.

	Feet. Inches.	
Ferruginous clay soil.....	5	00
Limestone, Warsaw division, lower St. Louis group, rough, shaly and much water worn, Oolitic, with many fossils of the Spurgeon hill species.....	10	00
Limestone, Warsaw division, lower St. Louis group, light gray, fine grained, Oolitic, without fossils.....	20	00
Total.....	35	00

The Oolitic limestones of Monroe county, by reason of accessibility and other valuable considerations, are of vast importance to the material prosperity and progress of the State of Indiana. For analysis of the same and other evidences of their superiority for building purposes, see Geological Report of Indiana for 1878, pages 95, 96 and 97.

Under the general heading of "building stone," same report, a great amount of valuable information will be found, arranged in a clear, concise and comprehensive manner. I am fully satisfied that they are worthy of all the high encomiums in their favor.

Section on the Hill road to Spencer, two and one-half miles west of Ellettsville.

Section 8, township 9, range 2 west.

	Feet.	Inches.
Arenaceous soil.....	4	00
Chester sandstone, unfossiliferous.....	30	00
Argillaceous and cherty layers, containing water-worn fossils in a fragmentary condition.....	10	00
Limestone, upper St. Louis group, light gray, hard and siliceous, resembling the lithographic limestone of Harrison county.....	40	00
Total.....	84	00

BUENA VISTA TOWNSHIP.

Section at Rocky Hill, on the Bloomington and Whitehall road, six miles southwest from Bloomington.

Section 4, township 8, range 2 west.

	Feet.	Inches.
Loamy soil, reddish color.....	4	00
Chester sandstone, bowlders and irregular masses of ferruginous sandstone.....	40	00
Argillaceous layers, containing irregular masses of chert, clay stones and fragments of fossils.....	10	00
Limestone—Upper St. Louis group—Light gray and shaly,	16	00
Limestone—Upper St. Louis group—Light gray, very hard and silicious, irregularly bedded and unfossiliferous.....	30	00
Total.	100	00

Mr. J. L. Keith, who lives at the western foot of Rocky Hill, presented me with some fine specimens of *Lithostrotion mammillare* found at this locality.

INDIAN CREEK TOWNSHIP.

Section at the Old Iron Furnace, two and one-half miles southwest from Sanford.

(Section 7, township 7, range 2 west.)

	Feet.	Inches.
Pale red loamy soil.....	6	00
Chester sandstone, containing <i>Stigmaria ficoides</i> and <i>Calamites cannaeformis</i> in a weathered condition.....	20	00
Argillaceous and cherty layers.....	10	00
Limestone (upper St. Louis group), light gray, hard, siliceous and irregularly bedded, containing <i>Zaphrentis spinulosa</i> , <i>Athyris trinucula</i> , <i>Beilerophon sublaevis</i> and <i>Syringopora multattennata</i>	30	00
Total.....	66	00

RECENT GEOLOGY.

The bottom-lands of Monroe county, especially those along the creeks and water courses in the western tier of townships, are exceedingly rich and productive—due in a great measure to the abundant presence of plant food drawn from the rocky summits and wooded slopes of the uplands during long periods of time, and there deposited by the ceaseless operation of atmospheric agencies. The surface soils of the broad valleys of Bean Blossom and Salt creek are principally formed of sand and shale washed down from the knobstone and Keokuk groups. The fertile bottom-lands on Richland creek are composed of the disintegrated oolitic limestone and the rich overlying clays of the lower St. Louis group. The rich alluvial bottoms of Indian creek are largely composed of matter carried down from the Chester sandstone, upper St. Louis limestone and their super-incumbent clays.

LACUSTRAL DEPOSIT.

This interesting deposit is confined to a few localities, of limited area, in Monroe county; chiefly on Bean Blossom creek, and also at points along the line of the railroad in Bean Blossom township. These deposits, however, are mere traces of their ancient presence, and are not sufficiently marked to require more than a passing notice.

GLACIAL PERIOD.

Strong indications of the glacial period in Monroe county are found in Marion, Washington, Bean Blossom, Richland and Bloomington townships; principally, however, in its deposition of earthly matter, and in the construction of new and the modification of old water-channels; to meet the new requirements of the changed condition, topographically, of this region. The first tier of townships formed part of the southern rim of the great basin of the White river valley; the second tier formed the northern rim of the basin of the Bean Blossom creek valley, and, without doubt, Bean Blossom creek has once had its channel-bed much farther westward and nearer Ellettsville than we now find it flowing; at which time it doubtless found an outlet through Rocky branch, Jack's Defeat and Clear creek southward.

A careful observation and study of the topography and geology of this region renders the above conclusion a reasonable and legitimate inference on the premises.

It is emphatically true that, during one stage of the long-time consuming process, it found an important outlet for its swollen waters of melted ice by the way of Jack's Defeat creek, flowing to the southwest, and another, not less important for its purposes, through Clear creek valley, flowing southward to the Ohio river, over the present road-bed of the L., N. A. & C. R. R. In the valleys and along the water courses of Marion township, the indications of this period consist of moraines composed of Plutonic rocks, brought by the agency of ice, from regions far north of Indiana, which, after having been borne thus far towards the south, were left by the melting of the ice in the pocket-shaped recesses of the hills where we now find them, viz: one-fourth of a mile southwest of Monroe's mill (section 4, township 10, range 1 east) on Hacker's creek, and on the Mahalasville road (section 3, township 10, range 1 east), one mile east of Monroe's mill; also, in the only ravine running north from Low Gap to Robert's creek. In this ravine, one-half mile north of Low Gap, lies the large granitic boulder, before referred to; much of its bulk is embedded in the earth, consequently the dimensions given only refer to the exposed part of it. The boulder itself is at least seventy-five feet below the level of Low Gap, and its presence here to-day is, without a doubt, due wholly to that fact. It and its numerous companions were simply pocketed by the hills of this locality. The shaly character of the rocks throughout this whole region preclude the possibility of finding enduring striæ to indicate the local direction of the of the icy masses, but these deposits of Plutonic rocks tell their own eventful story to all who are competent to be their interpreters. Here, their long, slow and laborious journey ended; here, their mission as specially privileged ancient travelers began.

ECONOMIC GEOLOGY.

COAL.

It is practically useless and a waste of money, time and labor to indulge the fruitless dream of ever finding workable seams of coal in Monroe county. It does not exist here, except as a worthless, black, slaty coal-bone, traces of which may be found in Indian Creek township, running south through Lawrence, Orange and Harrison counties.

IRON ORE.

The only deposit of iron ore, of the least consequence for commercial purposes, is confined to a very limited area in Indian Creek township. Nearly forty years ago an iron furnace was erected by Randall Ross, of Virginia, on the lands of George Adams, of Monroe county, on section 7, township 7, range 2 west, which is about the center of the iron deposit. The investment soon proved a failure and the furnace has long gone to decay. This ore, though of good local repute, in the absence of stone coal, railroads, and other essentials, offers no inducement at present for its development. Iron ore does not occur in any other township in Monroe county, and this deposit is not of a character, either in quantity or quality, to justify any very brilliant anticipations in the future. The ruins of the "old iron furnace" are to-day the mournful monument of an early spirit of enterprise that deserved a better fate.

BUILDING STONE.

The building stone of Monroe county is worthy to be classed with the best in the State of Indiana; and, according to the careful scientific analyses and mechanical tests to which it has been officially submitted, it ranks with the best oolitic limestone in the world. (See Geological Report of Indiana for 1878, pp. 95, 96 and 97.)

GRINDSTONES.

Grindstones, for ordinary purposes, of an excellent quality, may be procured in unlimited quantities from the Knob sandstone on Bryant's creek, three miles northwest of Hindostan, section 2, township 10, range 1 west, where there is an open quarry. This stone varies in color from gray or white to a very pale red, with horizontal partings.

LIME.

Lime of a superior quality is extensively burned from the oolitic limestone at Bloomington, Ellettsville, and other places in Monroe county.

CLAYS.

Good clays for the manufacture of brick can be found in abundance at Harrodsburg, Bloomington and Ellettsville, and also at other points overlying the St. Louis limestones. Potters' clay of inferior quality may be found in several localities on Indian creek, Indian Creek township, and also on Honey creek, in Marion township.

KAOLIN.

Traces of kaolin—mere water-worn fragments—are occasionally found upon the surface. No beds of this deposit are found in Monroe county.

MINERAL SPRINGS.

With the exception of the "Old Salt Springs" on Salt creek (which, for many years, have ceased to flow), and Ketchum's Sulphur Springs, three miles southwest of Smithville, no other mineral springs of any importance are now known to exist in Monroe county.

AGRICULTURAL.

The topographical features of Monroe county are quite varied, and often of an imposing character. The townships of Washington, Marion, Benton, Salt Creek and Polk owe their soils principally to the disintegrated shales of the knobstone group, which, containing a great proportion of iron pyrites, renders it unfavorable for the production of hay; but good crops of wheat can be raised on this soil by the liberal use of fertilizers. The soils of Bloomington, Perry, Richland and Van Buren townships are very superior and quite different from the former; being composed in a great measure of the disintegrated rocks and overlying clays of the lower St. Louis beds, they are richer in stores of nutritious plant-food, and, therefore, are better adapted for all agricultural purposes.

That portion of Monroe county east of the L., N. A. & C. R. R. (more especially in Washington and Benton townships), has been robbed of its productive strength by reason of a want of proper attention to the succession of crops and use of fertilizers. I would very earnestly recommend the erection of suitable mills in the vicinity of the stone quarries for the purpose of crushing and thereby utilizing the waste stone, which, being nearly a pure carbonate of lime, will furnish a most excellent fertilizer at a nominal expense.

TIMBER.

The variety and quality of the timber in Monroe county will compare favorably with that of any other county in the State. At the time of the first settlement of Monroe county it was magnificently wooded with white and yellow poplar, white, red, black and chestnut oaks, white and black walnut, ash, cherry, chestnut, sugar-tree, beech, hickory, elm, sycamore, black and sweet gum, sassafras, dogwood, etc., much of which was wantonly wasted and destroyed in the original clearings. As the population increased the legitimate demands for timber of all kinds for different purposes, accompanied by reckless waste, soon made sad havoc with the grand old monarchs of

the forest, so that now, save in some favored spots, the only timber of substantial value in the county owes its preservation to the physical difficulties of approaching the positions where it still so proudly stands. An active home and foreign demand for black walnut generally, and especially for such suitable to saw into veneers, has carried the very choicest specimens of this timber to Boston, New York and Philadelphia, and even to the principal capitals of Europe. When we consider that so much as two hundred dollars has frequently been paid for a single walnut tree suitable in size and figure for certain kinds of veneering, we can well imagine the loss Monroe county has sustained by indiscriminate clearings and their attendant burnings.

Vast quantities of cherry, ash and yellow poplar, of the finest quality and largest dimensions has, for many years past, been shipped by rail to Indianapolis, Cincinnati and New York, to be used in the manufacture of furniture and for other purposes. Immense numbers of staves and spokes are constantly required to meet the growing demand of the different factories here and elsewhere, even beyond the limits of the State. Those of Bloomington alone receiving, on an average, forty large wagon loads per day. The Standard Oil Company of Cleveland, Ohio, ships forty thousand dollars worth of staves from Monroe county, annually. A large and growing trade in tan bark and cross ties may be noted as a proof of the superior qualities of the timber of this county; all active agencies in its rapid disappearance.

FRUIT.

The cultivation of fruit is a notable feature wherever settlements occur throughout the county. That portion lying east of the Louisville, New Albany and Chicago Railway is peculiarly adapted to the growth of peaches, apples, pears, plums, cherries, grapes, etc. As for the small fruits generally, they are a safe crop in this region, enjoying all the advantages common to the whole of southern Indiana.

ANTIQUITIES.

With the exception of stone axes, arrow points, etc., of the pre-historic period of man on this continent, nothing of any special importance is to be found in the county. Particular pains, both by observation and inquiry, was taken to find earth-works, or other traces of the Mound Builders, but it was all in vain; not a single Indian mound is to be seen in Monroe county. From this fact it may be safely inferred that they never had any permanent habitation here. Their presence here, as travelers or hunters, is evident, however.

from the numerous chippings of hornstone and chert which were observed near school house No. 4, Perry township; where several chert implements of rude construction, apparently derived from the cherty layers of this immediate neighborhood were found.

In this connection it may be proper to state that the beautiful symmetrical natural mound on Captain D. V. Buskirk's farm, on Bean Blossom creek, near its junction with White river, is not of Indian origin. Although it is often spoken of as being the work of the Mound-Builders, it is simply a natural mound formed exclusively by the action of water during the glacial period.

OUTLINE GEOLOGICAL MAP OF INDIANA.

MOLLUSCOUS FAUNA OF INDIANA.

SYNOPSIS OF THE MOLLUSCOUS FAUNA OF INDIANA.

BY FREDERICK STEIN, M. D.

Since the molluscos fauna of Indiana attracted the attention of Thomas Say, that eminent naturalist, the interest in the study of the same has been steadily growing, until, at the present day, every species living within its borders is known to conchologists, and represented in each of a number of collections of mollusks in this State.

Many, probably the greater number of the mollusks occurring in Indiana, have been described in the early part of this century by Mr. Thos. Say, others by Messrs. Binney (father and son), Lea, Rafinesque, Barnes and others.

Some have not been known to exist within the limits of Indiana until very recently. *Unio purpuratus* was found in the Ohio river, near Mount Vernon, in 1873, and *Vivipara intertexta* in the stagnant waters of Posey, Gibson and Knox counties. Both of which species were, up to that time, considered as belonging to the fauna of the lower Mississippi.

In order to contribute to the knowledge of the natural history of Indiana, and to aid young students in the study of mollusks; I propose to give here a systematic list of those living within the limits of Indiana, and a few general remarks as to the localities in which they are found.

All the land shells of Genera *Macrocyclus*, *Zonites*, *Strobila*, *Vallonia*, *Helicodiscus*, *Ferussacia*, *Pupa* *Vertigo*, *Succinea*, *Tebenophorus* and some of the Genus *Helix* (such as *H. multilineata*, *clausa* and *profunda*,) are common in low, damp land, along ponds, etc. The remaining species of *Helix* live on upland.

Most of them hide under flat stones, logs, chips and the dead leaves on the ground; some burrow in the ground, as for instance *Zonites fuliginosa*, *Z. friabilis* and *Helix pennsylvanica*.

The non-operculated fresh water Univalves, *Vivipora* and *Melantho* prefer stagnant waters, while the *Valvata*, *Lioplax*, the *Rissoidea* and *Itrepomadae* are found in the large streams and rivers.

Many of the Unios seem to enjoy rapid streams, others are found exclusively in ponds and sluggish streams; many are found in almost any stream, others only in a few localities; while *U. sulcatus* and *perplexus* occur frequently in White river, they are very rare in the Wabash. *Anodonta suborbiculata* is found only in the ponds of Posey and Gibson counties, while *Anod. decora* occurs plentifully in any pond or sluggish stream.

Some like hard, gravelly ground and shallow water, as *U. rangianus* and *sulcatus*, *clavus*, etc.; others seek muddy ground and deep water, as *Unio retusus*, *Anodonta suborbiculata* and *Margaritana confragosa*.

UNIVALVES.

I. PULMONATA GEOPHILA.

HELICIDÆ.

a. VITRININÆ. Drap.

Genus MACROCYCLIS, Beck.

Macrocyclus concava.....Say.
All over the State in the woody lands.

Genus ZONITES, Montf.

Zonites fuliginosus.....Griffith.
In the valleys of Wabash and White rivers.

— *friabilis*.....W. G. Binney.
Is found in considerable numbers in the counties bordering on the lower Wabash river.

— *ligerus*.....Say.
Common all over the State.

— *arboreus*Say
Everywhere.

— *minisculus*Binney.
Near Indianapolis.

— *fulvus*.....Drap.
Found plentifully along the lower Wabash.

Genus LIMAX, Linn.

- Limax campestris*.....Binney-
Very common all over the State.

b. *HELICINÆ*.

Genus HELIX, Linn.

Sub-genus PATULA, Held.

- Patula solitaria*Say-
Along the lower Wabash and both branches of White river.
- *alternata*Say-
Common everywhere in the State.
- *perspectiva*.....Say-
Very common on woody hillsides.
- *striatella*Anth-
Near Indianapolis.

Sub-genus STROBILA, Morse.

- Strobila labyrinthica*Say-
Common in the low woods of the lower Wabash region.

Sub-genus POLYGYRA, Say.

- Polygyra leporina*.....Gould.
Found only in Gibson county.

Sub-genus STENOTREMA, Rafinesque.

- Stenotrema stenotremum*Fer.
In the vicinity of Indianapolis.
- *hirsutum*.....Say.
Common all over the State.
- *monodon*Rackett-
Common in all parts of the State.
- (Var.) *leati*Ward.
In Posey county.
- (Var.) *fraterna*.....Say.
Common about Indianapolis.

Sub-genus TRIODOPSIS, Raf.

- Triodopsis palliata*.....Say-
A common species in low wood lands.
- *obstricta*.....Say-
Found only in Posey county, and there only in a few limited localities.

***Triodopsis appressa*.....Say.**

Not rare along with *Triodopsis palliata*. Near Bonebank, Posey county, found a small variety of this species very plentiful.

— ***inflecta*.....Say.**

Common in hilly wood lands.

— ***tridentata*.....Say.**

Most common on the hillsides along White and Wabash rivers.

— ***fallax*.....Say.**

Rather rare, yet often met with near Indianapolis.

Sub-genus MESODON, Raf.

***Mesodon albolabris*.....Say.**

In the low lands along the rivers.

— ***multiradiatus*.....Say.**

In the wood lands along the Wabash as well as White river, it is very common. In the vicinity of Indianapolis there is an unstriped variety found.

— ***pennsylvanica*.....Green.**

Common about Indianapolis; a very fine form of it is found in the valley of the Wabash.

— ***elevata*.....Say.**

A common species in Marion county.

— ***exoleta*.....Binney.**

Common in Marion county.

— ***thyroides*.....Say.**

Common everywhere.

— ***clausa*.....Say.**

Very common in Marion county.

— ***profunda*.....Say.**

Plentiful along White river and Wabash.

Sub-genus HELICODISCUS.

***Helicodiscus lineatus*.....Say.**

In low, damp woods.

Sub-genus VALLONIA, Risso.

***Vallonia pulchella*.....Müller.**

Common all over the State.

c. ORTHALICINÆ.

Genus PUNCTUM, Morse.

***Punctum pygmæum*.....Drp.**— ***minutissimum*.....Morse.**

Near Indianapolis.

d. *PUPINÆ*.

Genus FERUSSACIA.

Ferussacia subcylindrica.....Linn.

In low, woody places in Marion county.

Genus PUPA, Drap.

Pupa pentodon.....Say.

Rare; occasionally in the low woodlands of Gibson county.

— *fallax*.....Say.

Common.

— *armifera*.....Say.

Common.

— *contracta*.....Say.

Very common.

— *corticaria*.....Say.

In great numbers near Indianapolis, where they seem to have been introduced on building stone from the quarries south of Gosport.

Genus VERTIGO, Müller.

Vertigo ovata..... Say.

Not rare in the low woodlands along the lower Wabash.

e. *SUCCININÆ*.

Genus SUCCINEA, Drap.

Succinea ovalis.....Gould.

Common in many localities, but the finest and largest specimens of this species are found in Knox county.

— *avara*.....Say.Very common about Bonebank, Posey county. Say's variety *vermeta* is sometimes met with in Marion county.— *obliqua*.....Say.

Not rare in low, woody lands.

PHILOMYCIDÆ.

Genus TEBENNOPHORUS, Binney.

Tebennophorus carolinensis.....Bosc.

A common slug.

II. PULMONATA LIMNOPHILA.

AURICULINÆ.

Genus CARYCHIUM, Mueller.

- Carychium exiguum* Say.
All over the State in low, damp and shady places.

LIMNÆIDÆ.

Genus LIMNÆA, Lamarck.

- Limnæa stagnalis* Linn.
A circumpolar species, found in the lakes of the northern counties of Indiana.
- *reflexa* Say.
Common in all ponds.
- *palustris* Müller.
— (Var.) *elodes* Say.
Knox county.
- *desidiosa* Say.
Marion county.
- *catascopium* Say.
Not common.
- *caperata* Say.
Common in any ponds.
- *humilis* Say.
Marion county.

Genus PHYSA, Drap.

- Physa gyrina* Say.
A most common species. Its variety, *Hildretheana* (Lea), occurs in Gibson county.
- *heterostropha* Say.
Common.

Genus BULINUS, Adanson.

- Bulinus hypnorum* Linn.
Not rare; in some places plentiful. A very marked and large variety was found in Gibson county, about Coffee Chute.

Genus PLANORBIS, Guettard.

Planorbis trivolvis Say.
Very common.

— *bicarinatus* Say.
Not quite so common as the preceeding.

— *deflectus* Say.
Marion county.

— *parvus* Say.
Not rare about Indianapolis.

— *exacutus* Say.
Near Indianapolis.

Genus SEGMENTINA, Flem.

Segmentina armigera Say.
Common.

Genus ANCYLUS, Geof.

Ancylus tardus Say.
In Wabash river and its tributaries.

III. PROSOBRANCHIATA.

VALVATIDÆ.

Genus VALVATA, O. F. Müller.

Valvata tricarinata Say.
In the White and Wabash rivers.

VIVIPARIDÆ.

Genus VIVIPARA, Lam.

Vivipara subpurpurea Say.
Common in the lower Wabash.

— *contectoides* W. G. Binney.
Lower Wabash river.

— *intertexta* Say.
Gibson and Knox counties.

Genus MELANTHO, Borod.

Melantho ponderosa.....Say.

In the Wabash river.

— *decisa*.....Say.

In ponds in lower Wabash valley.

— *rufa*.....Hald.

Found near Indianapolis.

Genus LIOPLAX, Troschel.

Lioplax subcarinata.....Say.

Wabash river.

RISSOIDÆ.

Genus SOMATOGYRUS, Gill.

Somatogyrus isogonus.....Say.

Common in the Wabash and its tributaries.

— *integer*.....Say.

Not common—rather rare.

Genus AMNICOLA, Ged. & Hald.

Amnicola granum..... Say.

Genus POMATIOPSIS, Tryon.

Pomatiopsis lapidaria.....Say.

A very common species in the lower Wabash valley. It lives commonly on damp lands.

HELICINIDÆ.

Genus HELICINA, Lam.

Helicina occulta.....Say.

Is to be considered extinct in Indiana, but it is found in a semi-fossil state in Posey and Sullivan counties.

STREPOMATIDÆ.

Genus ANGITREMA, Raf.

Angitrema armigera.....Say.

Common in the lower Wabash.

— *verrucosa*.....Raf.— (Var.) *nupera*.....Say.

Very common in the Wabash below Grand Chain.

Genus LITHASIA, Hale.

- Lithasia obovata*.....Say.
Patoka creek, Gibson county.

Genus STREPHOBASIS, Lea.

- Strephobasis curta*.....Haldem.
Wabash river.

Genus PLEUROCERA, Raf.

- Pleurocera alveare*.....Conr.
Wabash river, from Grand Chain downward.
- *undulatum*Say.
Wabash and Ohio rivers.
- *canalicalatum*.....Say.
Wabash and Ohio rivers.

Genus GONIOBASIS, Lea.

- Goniobasis depygis*.....Say.
Plentiful in the tributaries to Wabash.
- *livesceus*.....Menke.
Wabash and its tributaries.

Genus ANCULOSA, —.

- Anculosa praerosa*.....Say.
Very common about Coffee chute, in the Wabash river.

BIVALVES.

NAIADES.

Sub-genus UNIO, Retz.

- Unio alatus*Say.
Ohio, Wabash and White rivers.
- *lævissimus*Lea.
Ohio and Wabash rivers.
- *gracilis*.....Barnes.
In almost every stream in Indiana.
- *pressus*.....Lea.
Ohio, Wabash and White rivers.

- Unio multiplicatus* Lea.
Ohio and Wabash rivers.
- *undulatus* Barnes.
Ohio and Wabash rivers and their tributaries.
- *plicatus* Lesueur.
Ohio and Wabash rivers and their tributaries.
- *foliatus* Hildreth.
Ohio and Wabash rivers—rather rare.
- *lachrymosus* Lea.
Ohio and Wabash rivers.
- *asperrimus* Lea.
— *quadratus* Say.
Ohio and Wabash rivers.
- *fragosus* Conrad.
Ohio, Wabash and eastern branch of White river.
- *cincinnatiensis* Lea.
— *phillipsii* Conrad.
Both are now considered one species, the first the male, the last the female. Only few specimens of either have been found in the Ohio river, near Cincinnati.
- *pustulatus* Lea.
Ohio and Wabash rivers and their tributaries.
- *metaneverus* Raf.
(*U. nodosus* and *U. rugosus* of Barnes & Hildreth.) Ohio and Wabash rivers.
- *wardii* Lea.
A variety of the preceding species, is found in the Ohio as well as Wabash ver.
- *cornutus* Barnes.
— *reflexus* Conrad.
Ohio and Wabash rivers.
- *pustulosus* Lea.
— *verrucosus albus* Say.
— *bullatus* Conrad.
Ohio and Wabash rivers.
- *cooperianus* Lea.
Ohio river.
- *verrucosus* Barnes.
— *verrucosus purpureus* Hildreth.
— *tuberculatus* Conr.
Very common in Ohio and Wabash rivers and their tributaries.
- *graniferus* Lea.
Probably only a variety of the preceding species. Ohio and White rivers and their tributaries.

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- Unio irroratus* Lea.
- *stegarius* Conrad.
Ohio and Wabash rivers.
- *æscopus* Green.
Ohio and Wabash rivers and their tributaries.
- *varicosus* Lea.
- *cicatricosus* Contr.
One of the rarer Unios, occurring in the Ohio and Wabash rivers.
- *perplexus* Lea.
Ohio and Wabash rivers, also in the eastern branch of White river.
- *tuberculatus* ... Barnes.
Ohio, Wabash and White rivers.
- *cylindricus*.. Say.
In any of the larger streams of Indiana.
- *triangularis* Barnes.
- *formosus* Lea.
One of the handsomest Unios in Indiana, occurring in the Ohio and Wabash rivers and their tributaries.
- *elegans* Lea.
- *truncatus* Say.
Common in the Ohio and Wabash rivers.
- *donaciformis* Lea.
- *zig-zag* Lea.
Ohio and Wabash rivers—rather plentiful.
- *securis* Lea.
- *lineolatus* Say.
Ohio and Wabash rivers.
- *ovatus* Say.
Common in the Ohio, Wabash and White rivers.
- *rubiginosus* Lea.
- *flavus* Conrad.
In any stream of the State.
- *personatus* Say.
(*Pileus*, Lea, is the male, while *personatus* is the female.) A very rare shell; Mr. Say described it from a specimen taken in the Wabash near New Harmony.
- *trigonus* Lea.
Ohio and Wabash rivers.
- *solidus* Lea.
Ohio and Wabash rivers.
- *obliquus* Lam.
Ohio and Wabash rivers.

- Unio plenus*.....Lea.
Ohio and Wabash rivers.
- *pyramidatus*.....Lea.
- *mytiloides*.....Raf.
Ohio and Wabash rivers.
- *clavus*Lam.
Ohio and Wabash rivers.
- *patulus*.....Lea.
Probably a variety of the preceding species; found in great numbers in
White river, near Indianapolis.
- *rangianus*.....Lea.
Ohio, Wabash and White rivers.
- *sampsoni*.....Lea.
A very marked variety of the preceding species; named in honor of the
oldest living collector of mollusks in Indiana, Mr. James Sampson,
in New Harmony.
- *sulcatus* (male).....Lea.
- *ridibundus* (female).....Say.
A rare species; found in the Ohio, Wabash and White rivers.
- *ellipsis*.....Lea.
Wabash and Ohio rivers.
- *ventricosus*Barnes.
A variety of Lea's *U. occidentis*, Ohio river.
- *occidens*.....Lea.
Ohio and Wabash rivers, also in White river.
- *capax*.....Green.
In the Ohio and Wabash rivers.
- *multiradiatus*.....Lea.
Ohio, Wabash and White rivers and their tributaries.
- *ligamentinus*,Lam.
A common shell everywhere.
- *orbiculatus*Hildreth.
- *abruptus*Say.
Ohio and Wabash rivers.
- *luteolus*Lam.
- *siliquoides*.....Barnes.
Ohio and Wabash rivers, but most plentiful in White river.
- *fabalis*Lea.
Ohio, Wabash and White rivers.
- *parvus*.....Barnes.
Ohio, Wabash and White rivers.
- *nigerrimus*Lea.
White river.

- Unio glans* Lea.
Everywhere.
- *circulus* Lea.
Very common.
- *lens* Lea.
A variety of the foregoing species.
- *rotundatus* Lam.
- *glebulus* Say.
Ohio river.
- *retusus* Lam.
- *torsa* Raf.
Ohio and Wabash rivers.
- *ebenus* Lea.
Common in Ohio and Wabash rivers.
- *subrotundus* Lea.
- *politus* Conr.
Ohio, Wabash and White rivers.
- *coccineus* Lea.
Ohio, Wabash and White rivers.
- *kirtlandianus* Lea.
(A variety of *coccineus*, Lea's.) Ohio river, also White river, near Indianapolis.
- *rectus* Lam.
Ohio, Wabash and White rivers.
- *anodontoides* Lea.
- *teres* Raf.
Ohio, Wabash and White rivers.
- *nasutus* Say.
Ohio, Wabash and White rivers, the lakes and ponds in southwestern Indiana, and the canal near Indianapolis.
- *novi-eboraci* Lea.
The Indiana form of Lea's *Unio iris*. Wabash and White rivers.
- *tennissimus* Lea.
- *velum* Say.
- *leptodon* Conr.
Ohio and Wabash, and some of their tributaries.
- *phaseolus* Hildreth.
- *planulatus* Lea.
Common in the tributaries to the Ohio and Wabash, and consequently in these two rivers.
- *gibbosus* Barnes.
Very common anywhere.

- Unio purpuratus*.....Lam.
— *lugubris*.....Say.
 Found only in the Ohio river near Mt. Vernon.

— *monodontus*.....Say.
 Ohio and Wabash rivers.

Sub-genus MARGARITANA.

- Margaritana complanata*.....Lea.
 Ohio, Wabash and White rivers.

— *confragosa* Say.
 Ohio and Wabash rivers.

— *marginata*.....Say.
— [*Alasmodonta truncata*.....Say.]
 Ohio, Wabash and White rivers.

— *rugosa*Lea.
 Ohio, Wabash and their tributaries.

— *deltoidea*.....Lea.
 Ohio river.

— *calceola*.....Lea.
 Wabash and White rivers.

— *hildrethiana*.....Lea.
 Wabash and White rivers.

— *dehiscens*.....Say.
 Wabash and White rivers.

Sub-genus ANODONTA.

- Anodonta ferussaciana*Lea.
 Common in small streams and ponds.

— *imbecilis*.....Say.
— *incerta*.....Lea.
 Common in ponds, lakes and canals.

— *decora*Lea.
 Wabash and White rivers, ponds and canals.

— *grandis*Say.
 In the lakes and ponds in southwestern Indiana.

— *suborbiculata*.....Say.
 In the lakes and ponds of Gibson and Posey counties.

— *subcylindracea*.....Lea.
 In any pond or lake of the State.

CORBICULADÆ.

1. SPHÆRIUM.

<i>Sphærium</i>	<i>sulcatum</i>	Lam.
—	<i>striatinum</i>	Lam.
—	<i>stramineum</i>	Conr.
—	<i>rhomboidum</i>	Say.
—	<i>partumcium</i>	Say.
—	<i>transversum</i>	Say.
—	<i>contractum</i>	Prime.

2. PISIDIUM.

<i>Pisidium</i>	<i>abditum</i>	Haldem.
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PALEONTOLOGY.

PALEONTOLOGY.

FOSSILS OF THE INDIANA ROCKS.

BY C. A. WHITE, M. D.

Smithsonian Institution, Washington, D. C.

INTRODUCTORY REMARKS.

It may be safely assumed, without imputing ignorance to any one, that a large proportion of the people of the State into whose hands this report shall fall, are not familiar with Paleontology, or *The science which treats of fossil remains*, nor with books in which the facts and conclusions of that science are recorded. Professor Collett, therefore, desires to have given in its pages an elementary chapter upon the subject of fossils in general and the practical advantage to be derived from their study, couched in familiar phrase which all can readily understand, and accompanied by figures of some of the more characteristic fossils of the Indiana rocks by which their kinds may be identified. No apology need be made for proposing and adopting such a course because the propriety of it is self-evident, even to those who do not themselves need it. Every scientist, however eminent, can well remember his own early beginnings and how thankful he then was for every word, printed or uttered, which would convey to him even a fragment of the knowledge for which he so eagerly thirsted, in language that he could comprehend, and it is the crowning glory of some eminent scientists that they are also admirable teachers of the young.

It will be impossible to present as much as an outline of the general subject with even approximate clearness in a single chapter, and I therefore propose to confine myself mainly to a brief popular explanation of the few fossils which have been selected for illustration upon the eleven plates which accompany this report; but before doing so it will be best to attempt a brief

explanation of the character and conditions of preservation of fossils in general.

No animal or plant has ever been preserved in a fossil condition complete in all its parts, as it existed in life; and from the nature of the case, also, it is evident that only a small proportion of all the animals and plants that have formerly existed upon the earth could have escaped total destruction amid the changes which have successively taken place as the ages passed. The grass of the plains, the fallen trees of the forest, the bones and teeth of vertebrate animals and shells of mollusks, as well as the soft parts which accompanied them in life, when left lying upon the ground exposed to the elements, sooner or later decay, and leave no trace of their former existence; and it is only when imbedded in sediment at the bottom of waters that any remains of animals and plants have been preserved in the fossil condition. All the vast formations of stratified rocks are composed of such sediments in a more or less hardened condition, and in these are entombed the remains which reveal to us the former history of the earth, and the forms that have lived upon it.

In the case of plants it is the imprints of their leaves and other parts and their carbonized or mineralized stems which furnish us with our knowledge of the vegetation that formerly existed. The leaves, fruits and smaller branches have fallen into the water, settled upon its bottom and become covered by the constantly accumulating sediment; and ages afterward the strokes of the geologist's hammer brings them to light in the form of beautiful imprints upon the face of the riven rock. In some of the regions of the far west trunks of trees, sometimes forests of them, became submerged in waters which held silex in solution; and this silex so completely replaced the woody fibre by precipitation as the latter decomposed that the whole became a solid flinty mass. In many such cases, not only the form of the tree-trunks and branches is preserved, but even the microscopic structure of the woody fibre is often as clearly discernable as it is in the living wood of to-day.

While a mass of dead vegetation left exposed to the elements will become totally lost by decomposition, it will, if kept constantly covered in quiet waters, undergo a process of carbonization the results of which are familiarly known in the form of peat. The peat of former ages has been changed to coal. During the process of the preservation of these great accumulations of ancient vegetation, the plants which contributed their substance to the mass became so finely comminuted before solidifying as to retain little or no indication as to their kinds; but the sedimentary layers associated with the beds of coal usually contain scattered and more or less perfect parts of plants, which are doubtless of the same kinds as those of which the coal was formed.

In the case of animals it is only the hard parts, those which contain a greater or less proportion of mineral substances, which are preserved; such as the bones of vertebrate animals and the shells of mollusks. The soft parts of all animals always sooner or later decay and entirely disappear; and the form which these parts bore, and their relation to the hard parts which are preserved, must always be determined by a study of the latter in the case of all fossil or extinct forms. Thus we know the various kinds of mollusks which formerly existed by their shells alone; the crustaceans and insects by their crusts, or shelly coverings; fishes by their scales, teeth and bones; reptiles and mammalian quadrupeds by their bones and teeth; and none of them by their fleshy or soft parts, because those have wholly disappeared. It is a common, popular belief that the human body sometimes turns to stone after interment, but this is an error. The fat and muscular tissue, not only of the human body, but also of other animal bodies, in some cases changes, after death, to a wax-like substance called adipocere, and it is this which is mistaken for stone. This substance is tolerably firm, and often preserves the form and features of the body in a more or less perfect condition for a few years after death; but this only retards, and does not prevent, the final and complete decomposition of all those parts which were originally soft.

The substance of fossil bones, teeth, shells and coral is not usually found to differ materially from what it is in the living condition. Bones in the living animal consist of two-thirds mineral substances, and they are therefore preserved as fossils with comparatively little change. The shells of mollusks and the coral of polyps consist almost wholly of lime-carbonate, a substance identical with limestone, and they therefore undergo but slight change in the process of fossilization.

Sometimes, however, they change from that limestone condition to a silicious one, similar to that of the fossil wood already mentioned. The fossil coral figured on plate VI. has thus been changed to a silicious or flinty condition, while most fossil corals retain their original limestone-like condition. The numerous minute cavities which are seen in all cabinet specimens of the corals which live in the present seas, and which were filled with soft animal tissue in the living condition, have in fossil corals usually become so solidly filled with stony matter that they may be polished as marble; and yet the texture is so completely preserved as to show the structure of the fossil corals in as perfect condition as that of the living kinds.

It is not unfrequently the case that fossils, especially shells, are found in the rocks in the form of moulds and casts. The former are cavities from which fossils have been removed by solution, which did not effect the imbed-

ding rock, and was effected by the percolation of water for a long time through the more or less porous rock which inclosed them. The latter consists of substances which have filled moulds once formed by solidification of dissolved mineral substances, or otherwise, and they are therefore counterparts of the original fossils. The following incident may serve as an illustration of these natural processes of fossil preservation:

During the excavations of the streets of Pompeii, the workmen came upon a cavity in the tufa or partially hardened volcanic ashes, which had for centuries lain upon the buried city. This cavity was found to be the mould of a human body, that of one of the inhabitants of the fated city who had fallen there from suffocation on that terrible night when the city was buried in a shower of ashes from Vesuvius. A plaster cast of this cavity was taken and the form of the doomed citizen was thus restored to human gaze just as it fell in death eighteen hundred years before. This is an impressive illustration, because it deals with catastrophe to human life, but the paleontologist not unfrequently, in a similar manner, restores to human view animal and vegetable forms whose kinds became extinct at a time compared with which that of the destruction of Pompeii was but yesterday.

The stratified rocks of Indiana belong to the earlier geological ages, called the Lower Silurian, Upper Silurian, Devonian and Carboniferous ages. The animal remains which they contain are, in many parts of the State, abundant, and consist almost wholly of those which lived in marine waters. We know this to have been the case notwithstanding the fact that they are now imbedded in the rocks of an inland portion of the continent and consist of species which are now extinct, because the kinds of living animals which are most nearly related to them are found only in marine waters.

Vegetable remains are rare or wanting in the rocks of the Devonian and Silurian ages, but they are so abundant in a large part of those of the Carboniferous age as to indicate the existence of a profusion of vegetation at that time which has never since been surpassed. Many of these vegetable forms were like the ferns of the present time; many were like certain portions of the vegetation which now characterizes Australia and neighboring islands, and some were strangely different from any living forms.

The remains of the most highly organized animals which have been discovered in the rocks of Indiana are those of fishes and reptiles, but these are very rare, and the most abundant fossils are shells, corals and the imprints of plants. Fossils of these latter kind are so abundant in Indiana that to illustrate even the principal forms that are now known would be a work requiring many years of labor, and many volumes. The few which are illustrated in this report have been selected from the more perfect examples of

well-known kinds. Although they are valuable, so far as they go, they give at best only a faint glimpse of the treasures of this kind which the rocks of Indiana afford.

But some one will ask: "What is the practical value of all this, and what benefit is to be derived from a study of these things, which long since ceased to exist?" It may be answered much every way: Careful study of all departments of nature has an elevating influence, and ought to be publicly encouraged. But this does not quite answer the question in the form in which it is often raised, and I may, therefore, make the following statement of facts and legitimate inferences, as a partial answer, selecting those which are especially applicable to Indiana:

1. The rocks which underlie the surface of the State lie in more or less continuous layers, one upon another, constituting what are known as formations, portions of all of them respectively coming to the surface or near it in different regions, other portions of the same being elsewhere more or less deeply covered by those which overlie them as they lap upon one another. Thus, as one traverses the State in almost any direction he comes successively to regions where the rocks found at or near the surface are of different geological ages. Now, the kinds of animals and plants which existed in one geological age were different from all those which existed in any other age, and the geological age of any rock formation is known only by means of the fossil remains which are found in its strata. The chronological order of the formations thus established is so constant and reliable that the relative position of any formation in the scale is known with certainty, even though only a small portion of it may be visible at the surface, the remainder of the series being deeply covered or absent.

2. Although in other parts of the world coal is found in formations of other and later geological ages; in Indiana and the adjoining States it is to be found only in the coal-measures, or the upper formation of the Carboniferous age; and it is useless to seek for coal in any part of the State in which those rocks are found that, by their contained fossils, are known to belong to the Devonian, Upper Silurian or Lower Silurian ages, because these rocks all belong in the series beneath those which contain the coal. So also the lower Carboniferous rocks of Indiana are known to contain no coal; but the coal of the Upper Carboniferous formation, or coal-measures, has made the State famous for that feature of its mineral wealth.

3. Within the area then, which is occupied by rocks containing fossils that characterize the Upper Carboniferous formation, it is reasonable to search for coal. In all regions where Silurian, Devonian or Lower Carboniferous fossils are found in the rocks exposed at the surface, it is worse than useless

to make any such search. Thousands of dollars have been annually expended in the vain search for coal in regions where any one having a moderate knowledge of the rocks and their fossil contents, could have confidently predicted a failure.

It has already been stated that the rocks of Indiana belong to the earlier geological ages. Those of the later ages are found in the States which border the Great Gulf and the Atlantic, south of New York; and they also prevail over great areas in the western portion of North America, as well as in many other parts of the world. Therefore even the fullest illustration of the rich fossil treasures of Indiana would represent only a part of the full series of geological formations. Notwithstanding this fact, that part of the series which the State does contain is in some respects the more important one. Certain it is that the rocks of no State in the Union are more abundantly charged with fossil remains than those of Indiana, and some of the geological reports of other States are richly embellished with illustrations of beautiful and instructive specimens which have been obtained from rocks within her own borders.

Each of the species which are illustrated on the accompanying plates will be described on following pages in the usual technical language adopted by paleontologists; but preceding these descriptions the following popular explanation of the general character of the different kinds may not be inappropriate here:

The figures on plates I. and II. represent fossils of the lower Silurian age. All except figures 1 and 2 of plate I., and 1, 2, 3 and 4 of plate II., represent, by different views, respectively seven widely different species of a class of bivalves shells bearing the general name of Brachiopods. This class of animals was abundant and of many kinds in the seas of the earlier ages; but it has comparatively few representatives in those of the present time. Brachiopods differ from the ordinary bivalve mollusks in having the two valves of their shells more or less unequal, and also in other important particulars. The shells of this class are so abundant and varied in the different formations, and so characteristic withal, that they constitute valuable guides in determining the identity of the formations respectively in which they are found. Other bivalves, more nearly related to the clams of the present seas, existed at the same time with those which have just been mentioned, but the class of mollusks to which they belong was not nearly so full in those early seas as the Brachiopods were.

One species of these, distantly related to the pearl-oyster of the present seas, is represented by figures 1 and 2, of plate I.; and figures 3 and 4, of plate II., represent a species of Univalve mollusk which is too closely like

many living forms to need explanation. Figures 1 and 2, of plate II., represent a kind of Crustacean, known by the general name of Trilobites (from the three-lobed character of the body), which were very numerous and of many kinds in the seas of the earlier geological ages. Every species of the whole Trilobite order has been extinct for ages, but the Horse-foot crab of the present seas so closely represents them as to enable us to judge very accurately as to the true nature of Trilobites. They had numerous weak legs, which are seldom found preserved, and some of them at least were in the habit of rolling themselves up like a ball, for purposes of protection by their firm outer crust. This position is shown by figure 2, on plate II., in which case the animal died in that posture of defense.

Plate III. represents a few kinds of the fossils of the Upper Silurian age. Figures 2 to 6 represent, by different views, two kinds of the bivalve shells called by the general name of Brachiopods, the general character of which has been explained, and the specific names, together with those of all the others will be found on subsequent pages. Figures 7 and 8 are two views of a Univalve shell having a general form which is not unlike that of many well known shells now living.

Figure 9 is that of a Trilobite of a different kind from that which is illustrated on plate II. The general character of these animals has already been explained. A person unacquainted with such forms as are represented by figure 1, which belong to an order of animals called crinoids, could hardly be persuaded that it is not a representation of some vegetable instead of animal form. It is seen to have a root, by which it was attached to the bottom, a stem, and what appears to be a flower at the top; and the stem of some of the species is profusely branched, which adds still further to their vegetable-like aspect. Notwithstanding all this, no fact in natural history is more clearly established than that the crinoids are animals and not vegetables; the structure of their bodies, or the part which resembles a flower, being similar to that of the star-fishes, to which, indeed, they are very closely related. Several species of crinoids have been found alive in the present seas, but they are not now nearly so abundant as they were in the seas of the earlier geological ages. Many of their forms are of remarkable beauty and they often covered great areas at the bottom of those ancient seas, forming submarine animal-flower gardens which were the rivals in variety and beauty of those which we now admire in the vegetable world. So abundant were they in some places then that great layers of rock are often found made up almost entirely of their remains, which are similar in their composition to that of shells and corals.

The figures on plates IV. and V. represent fossils of the Devonian age. All the figures on plate IV. and figures 7 to 12 inclusive on plate V., are those of seven different species of Brachiopods, the general character of which order of shells has already been explained. Figures 5 and 6 on plate V. are two views of one and the same shell which represents a species belonging to the same great class with the common clam. Figures 1 and 2 of the same plate are two views of a small broken mass of fossil coral, which consists of numerous small angular tubes in close contact with each other, and having numerous small holes or pores communicating through their walls. One of the figures shows the sides of the tubes, which are exposed when the mass is broken apart, and the other their ends. In figures 3 and 4 on plate V. represent another and very different coral. It is shaped like a small horn, and has a moderately deep cup-shaped cavity at the larger end.

Corals are found in rocks of marine origin belonging to all the geological ages, but they were particularly abundant in the seas of the Devonian age. One of the great coral reefs of that age now obstructs the navigation of the Ohio river opposite Jeffersonville, producing the falls of the Ohio. These ancient corals have become consolidated into ledges of limestone, but it is nevertheless as veritable a coral reef which obstructs the river navigation there, as those are upon which ships are wrecked in the seas of to-day.

Plates VI. and VII. represent fossils of the Sub-carboniferous group, or the lower formations of the Carboniferous age. Figures 1 and 2 of plate VI. are side and top views of a fragment of a mass of coral of a kind which is very common in some parts of the State, and is quite characteristic of a part of the Sub-carboniferous strata. The masses are often large and are usually found to have been changed to a hard, flinty condition. Figure 3 is that of a species of Crinoid, the general character of which plant-like animals has been already explained. Figure 4 represents the shell of a swimming mollusk, representatives of which class now live abundantly, although usually of much smaller size, in the open ocean. Figure 5 is that of a Trilobite, one of the last of its kind, for the remains of these creatures, although so common in the earlier formations, are not found in any rocks of later age than the Carboniferous. Figures 1 and 2 of plate VII. are two views of a large Brachiopod, the general characteristics of which class have already been explained. Figure 2 represents the appearance of the stony filling of the shell from which the *test* has been removed and exhibiting the large scar of attachment of the muscles by which the animal opened and closed its shell. Figures 3 and 4 are two views of a shell related to the Pearly Nautilus, the zig-zag lines showing the position of the septa or partitions by which the shell was divided into chambers, in the outer one of which the animal lived. Figure 5 repre-

sents a univalve shell of a kind that is somewhat common in the Sub-carboniferous rocks, and figures 6, 7 and 8, three species of Crinoid, the general character of which has already been explained. Figures 9 to 12 represent three kinds of Pentremites, which are animal forms closely related to the Crinoids. Like the Crinoids, they were attached to the bottom or some other object by a slender stem of greater or less length, but the body was not provided with petal like arms, as most Crinoids were.

Plate VIII. represents fossil shells of the coal measure rocks, or those of the formation which contains the coal. Figures 1 and 2 represent a kind of bivalve shell, the form of which may be readily understood from the figures although the specimen from which they are drawn has been somewhat distorted by accidental pressure. Figures 3 and 7 and 8 represent two widely different kinds of Brachiopods, which two kinds are among the most characteristic fossils in the Coal-measure formation. Figures 6 and 4 and 5 represent two characteristic kinds of univalve shells.

Plates IX., X. and XI. contain figures of fronds or leaves of different plants of the fern kind, which are more or less common in strata associated with the coal. These, as well as the fossils of the other plates are all minutely described on following pages under the names that have been given them by paleontologists, and the localities in Indiana at which they have been found is also given in the same connection. The few kinds of fossils represented on these plates are not a tithe of those which are well known in the rocks of Indiana, but such interests cluster around them that surely one can not look upon them without a strong desire to know more about the strange forms which have once peopled our earth but are now extinct.

DESCRIPTION OF FOSSILS.

In presenting the few species of fossils, described on the following pages, and illustrated on the accompanying plates, no claim is made to any original work, or observations on my part, in connection with the greater portion of them. All the species except the three, which have been lately published by myself, have long been well known to geologists, through the publications of different authors; and it is for this reason that they have been selected for illustration and description here, as being more instructive than new and rare forms would be. I have not thought it necessary in this case to precede each description with extended synonymy and references to the numerous works in which some of the species are published; and I have therefore con-

finer myself to a single reference of that kind in each case; which reference is not always to the original publication. In case the description is quoted verbatim, it is the work thus referred to that the quotation is made from. Those descriptions which are quoted, are indicated by the usual quotation marks, and the author's name is added at the end in brackets; but in a few cases I have re-written the description, of long published species. In several cases I have chosen to copy the specific descriptions which have been given by subsequent authors rather than those of the original authors; because it is thought that the later descriptions are more nearly adapted to those varieties of the respective species which are found in Indiana, since they were drawn from specimens that were obtained from rocks of this and adjoining States.

The illustrations have all been drawn anew by Dr. J. C. McConnell, of Washington, D. C.; the greater part of them having been drawn directly from specimens collected within the limits of Indiana, and identified by means of their respective original descriptions and figures. The drawings have all been made with pen and ink, and reproduced for printing, by the new process of the Photo-Engraving company of New York City.

The fossils used for this purpose have been borrowed from the private cabinets of Mrs. Mary P. Haines, of Richmond; Hon. John T. Scott, of Terre Haute; Mr. Geo. K. Green, of New Albany; Mr. William Gibson, of Newport; Mr. V. W. Lyon, of Jeffersonville; Dr. James Knapp, of Louisville, Kentucky; Mr. Wm. Gurley, of Danville, Illinois; and Prof. John Collett. The remainder of the drawings are copies of published illustrations of Indiana fossils, which have appeared in Geological reports of other States, which specimens were chosen by their authors as being better suited for that purpose than any of those, which have been discovered in the corresponding formations within the limits of those States.

LOWER SILURIAN.

MOLLUSCA.

BRACHIOPODA.

GENUS STROPHOMENA, Rafinesque.

Strophomena alternata, Conrad.

PLATE I, FIGS. 6 AND 7.

Strophomena alternata. Meek 1873, Paleontology of Ohio, Vol. I, page 881.

"Shell attaining a large size, semi-oval, the breadth being nearly always greater than the length, but varying from about equal to the latter to the proportions of near nine to seven; hinge line as long as the breadth of the valves at any point farther forward, or somewhat longer; lateral extremities rectangular, or a little more or less than rectangular; sometimes compressed and moderately deflected; lateral margins straight, a little convex, or slightly sinuous posteriorly, and rounding forward to the front, which is semi-circular in outline, or sometimes so prominent and narrowly rounded in the middle, as to impart a sub-trigonal form to the general outline of the valves.

Dorsal valve flattened in the umbonal and cardinal regions, and gently or more or less strongly concave in the central and anterior portions, and curved upward around the anterior and lateral margins; beak small, but projecting slightly beyond the edge of the area, which is very narrow, or sub-linear and directed nearly backward. Interior with cardinal process strong, directed obliquely forward, with its two divisions distinctly diverging, and flattened and longitudinally striated on their posterior faces; sockets for the reception of the teeth of the other valve rather well defined; socket ridges very small, and uniting behind the cardinal process to form a kind of false deltidium; muscular scars comparatively small, but deeply impressed near the cardinal process on each side of a small, short, mesial ridge, and nearly surrounded by a low obtuse ridge formed by the thickening of the adjacent internal surface of the valve; anterior and lateral margins more or less

thickened and geniculated within (especially in adult shells), the thickened zone being transversely furrowed, and sometimes granular, while outside of it the immediate edge of the valve is suddenly flattened, and minutely striated and granulated.

Ventral valve a little convex at the umbo, but generally much compressed over the whole visceral region, in the adult (which includes the whole surface of the young and half grown shell) but becoming more convex (sometimes strongly so) anteriorly, or antero-centrally and laterally, and thence more or less curved up to the anterior and lateral margins; area of moderate height, flat and directed obliquely backward nearly at right angles to that of the other valve; beak very small, scarcely distinct from the margin of the area, and minutely perforated; foramen broadly triangular, and arched over above by the pseudo-deltidium, which is very deeply sinuous on its inner edge, the sinus being nearly or quite closed by the dental process and pseudo-deltidium of the other valve.

Interior with cardinal margin somewhat carinate within; hinge teeth moderately prominent, remote and widely divergent; dental ridges obscure and extending obliquely outward and forward, but not produced or curving to surround a saucer shaped cavity for the muscular scars; scars of adductor muscles narrow, long and closely approximated, or almost in contact; those of cardinal muscles on each side very large, fan-shaped but shallow, separated sometimes by a small ridge in advance of the adductor scars, and marked by radiating furrows and ridges; while the anterior and lateral regions are usually marked by striæ and scattering granules.

Surface of both valves ornamented with numerous radiating striæ, that increase in number on the ventral valve, mainly by intercalation, and are usually arranged with one to six or eight smaller or shorter ones between each two larger and more prominent ones, the largest one of which often occupies the mesial line; while on the dorsal valve they more frequently increase by division, and are generally of more uniform small size.

On well preserved specimens all the radiating lines are crossed by numerous very minute, regular, closely arranged concentric striæ, that are invisible without the aid of a magnifier; a few moderately distinct, sub-imbricating marks are also often seen near the free margins of adult shells.

Length of a rather large specimen (of medium convexity), 1.52 inches; breadth, 1.84 inches; convexity, 0.36 inch." [Meek.]

Position and locality: Cincinnati group; Richmond, Indiana; cabinet of Mrs. Mary P. Haines.

Strophomena planumbona, Hall.

PLATE II., FIGS. 13 AND 14.

Strophomena Planumbona, Meek. Paleontology of Ohio, Vol. I, p. 79.

"Shell rather small, or scarcely attaining a medium size, concavo-convex, semi-oval, or more than semi-circular in outline; hinge line generally a little longer than the breadth of the valves at any point farther forward; lateral extremities, in most examples, somewhat less than rectangular, or sometimes rather acute, more or less compressed and deflected; lateral margins a little contracted posteriorly, and rounding to the front, which forms a regular semicircular curve. Dorsal valve flat in the umbonal region, and rather strongly and evenly convex in the central and anterior regions, from which it rounds off abruptly to the front and lateral margins; beak very small, or not distinct from the edge of the narrow or sublinear area, which is inclined nearly directly backward, but not incurved. Interior showing the cardinal process to be small, depressed, divided to its base into two diverging tooth-like parts, a little flattened on their posterior faces, and directed very obliquely forward and outward; socket ridges short and oblique; mesial ridge low, extending but a little distance forward; while the space between it and the socket ridge, on each side, is occupied by a moderately distinct muscular scar.

Ventral valve broadly and rather deeply concave in the central and anterior regions, and slightly convex at the beak, which is very small, abruptly pointed, scarcely projecting beyond the edge of the area, and usually minutely perforated; area moderately high, extending the whole length of the hinge, generally but little sloping laterally, flattened and inclined more or less backward; foramen closed by a prominent rounded pseudodeltidium, that is transversely striated, and rather broadly sinuous on its inner edge, for the reception of the cardinal process of the other valve. Interior showing hinge teeth to be well developed, trigonal and striated on their posterior sides; while from their inner bases the dental laminae extend forward so as nearly to encircle the usual saucer-shaped depression for the muscular scars, which is sometimes divided by a small, linear mesial ridge; cardinal margin prominent and sharp within, on each side of the hinge teeth; anterior and lateral regions more or less thickened within, and roughened by the crossing of the vascular markings, which are scarcely visible on any part within this zone.

Surface of both valves ornamented by numerous fine, closely crowded, radiating striae, that are often alternately a little larger and smaller, or on some parts, with several of the smaller ones between each two of the larger;

the smaller being always shorter than the larger, or ending at various distances between the free margins and the beaks, without coalescing with those between which they are intercalated. Striæ and furrows minutely crenulated by extremely small, very regular, closely arranged, concentric lines, invisible without the aid of a magnifier; a few sub-imbricating marks of growth are likewise sometimes seen near the free margins.

"Length of a medium sized specimen, 0.73 inch; breadth, 0.98 inch; convexity, 0.24 inch; number of striæ in the space of 0.10 inch near the middle of the front margin, from 5 to 8; the greater number being where smaller ones are intercalated between the larger." [Meek].

Position and locality: Cincinnati Group; Richmond, Indiana; cabinet of Mrs. Mary P. Haines.

Genus ORTHIS, Dalman.

Orthis subquadrata, Hall.

PLATE I, FIGURES 3, 4 AND 5.

Orthis Subquadrata. Meek, 1873, Paleontology of Ohio, p. 94.

"Shell attaining about a medium size, rather distinctly resupinate, somewhat wider than long, subquadrate in general outline; moderately convex; cardinal margin shorter than the breadth of the valves, and rounding abruptly at the extremities into the lateral margins, which round and converge forward; front a little sinuous or straightened at the middle.

Dorsal valve more convex than the other, its most prominent part being near the middle; mesial sinus small, and rather shallow, sometimes continued back nearly to the umbo, or in other instances scarcely more than reaching the middle; beak very short, or a little distinct from the edge of the area, and more or less arched; area narrow, directed obliquely backward and downward. Interior with scars of the adductor muscles moderately distinct, the posterior pair being situated close back under the brachial processes, one on each side of a well-defined rounded ridge, that becomes suddenly smaller between the anterior pair; cardinal process rhombic, sub-conical, moderately prominent, and having its posterior side marked by deeply impressed divaricating striæ; sockets well defined; brachial processes rather strong and directed obliquely forward and laterally; internal surface, excepting the radiately striated front and lateral margins, nearly smooth.

Ventral valve a little convex at the umbo, and flat, or slightly concave, between the umbo and the front and lateral margins, but sometime having a low, very obscure mesial elevation toward the front; beak small, and very short, or scarcely equaling that of the other valve, arched at the apex, but not

strongly incurved; area about twice as high as that of the other valve, well defined, tapering rather rapidly toward the lateral extremities, arched with the beak, and directed backward and downward at decidedly less than a right angle to that of the other valve; foramen broad-triangular, and partly occupied by the cardinal process of the other valve. Interior with muscular scars occupying a rather deep, bilobate impression extending nearly or quite to the middle of the valve, and usually defined by a low ridge most distinct on each side; scars of adductor muscles small, separated by a mere trace of a raised line; those of the divaricator muscles of moderate size, longitudinally striated, and having their narrowed posterior ends extending backward nearly to a small, triangular, transversely striated space occupying the interior of the beak; those of the ventral adjustor muscles smaller and shorter than the divaricators, and situated nearly under the hinge teeth, which are moderately prominent, sub-trigonal and oblique; vascular markings with their lateral divisions curving up backward and sending off several branches, while the other divisions extend forward and bifurcate so as to occupy the anterior region; anterior and lateral margins crenate within by very short striæ.

Surface of both valves ornamented by moderately stout, radiating striæ, the posterior lateral of which curve so strongly outward that a few of them run out on the cardinal edge before reaching the lateral margins; striæ of ventral valve nearly always increasing by bifurcation (some of them dividing two or three times); while those on the dorsal valve generally increase by the intercalation of shorter ones between the longer. A few distant, sub-imbricating marks of growth are sometimes seen toward the front and lateral margins; while on perfectly preserved specimens, the radiating striæ may sometimes be seen to be roughened by minute elevated concentric lines, that are more or less interrupted in crossing some of the striæ.

Length of a rather large, well developed specimen, 0.96 inch; breadth, 1.30 inches; convexity, 0.43 inch." [Meek].

Position and locality; Cincinnati Group; Richmond, Indiana, Cabinet of Mrs. Mary P. Haines.

***Orthis occidentalis*, Hall.**

PLATE II., FIGURES 10, 11 AND 12.

Orthis Occidentalis. Meek, 1873, Paleontology of Ohio, p. 96.

"Shell attaining a moderately large size, wider than long, varying from transversely sub-quadrate to semi-oval, becoming quite gibbous with age; hinge line exceeding, about equaling, or sometimes a little less, than the breadth of the valves at any part farther forward; lateral extremities moderately compressed, varying from rather acutely to more or less obtusely angu-

lar; lateral margins often a little sinuous behind, but sometimes straight or convex in outline, but rounding to the front, which is nearly always a little sinuous, and some times rather decidedly so, in the middle.

Dorsal valve more convex than the other, especially in the large adult examples, its greatest convexity being generally a little behind the middle, on each side of a shallow, undefined mesial sinus, generally extending from the front to the umbonal region, but sometimes nearly or quite obsolete, or only represented by a slight flattening along the middle; swell of the umbo comparatively prominent, and often projecting backward further than the beak of the other valve; beak rather strongly incurved; area of moderate height in the middle but sloping to the lateral extremities, sharp along the margin, and more or less strongly incurved; foramen broad-triangular, and not closed by the cardinal process. Interior with scars of the adductor muscle situated on each side of a low mesial ridge, which is narrower between the anterior than the posterior pair, which latter are placed far back under the brachial processes, and rather strongly striated, but without well defined margins; anterior pair somewhat trigonal, and usually each separated from the posterior by an obscure transverse ridge, but without well defined anterior margins; cardinal process merely presenting the appearance of a compressed or sharp ridge, much lower than the surface of the cardinal area; sockets distinct; brachial processes directed forward and more or less laterally, usually sharp on their inner under edges; vascular scars unknown.

Ventral valve most convex at or near the apex of the beak, from near which it slopes more rapidly to the front and lateral margins than to the anterior lateral, the anterior region being impressed so as to form a broad, more or less deep, undefined mesial sinus, that dies out before reaching the umbo; beak rather elevated, but not projecting backward, abruptly pointed, very nearly straight, or sometimes slightly arched at the point; cardinal area rather high at the beak, but sloping to the lateral extremities, flat or slightly arched, and usually standing nearly at right angles to the plane of the valve; foramen generally higher than its breadth at the hinge line, and extending to the apex of the beak. Interior showing the cardinal margin to be prominent and sharp, and the hinge teeth well developed; cavity for the reception of the muscular scars deep, nearly or quite reaching the middle of the valve, obcordate in form, and bounded by a prominent ridge continued forward from the bases of the hinge teeth, and curved a little backward at the central point of the front, where they meet; impressions of the divaricator muscles (cardinal, of some) deep; while those of adjustors are so small, and pushed so far aside, as to occupy the sides of the dental plates, and thus to be out of sight in a direct view; those left by the adductors are narrow, elongated, and

situated on each side of a mesial ridge, that is divided along the middle so wide and distinct a furrow as to appear almost like two linear ridges; transversely striated cavity within the beak, white, very small and broad-triangular; free margin crenate within, while the surface between this and the deeply impressed muscular cavity is usually smooth, or sometimes very minutely and obscurely corrugated; vascular markings unknown.

Surface of both valves ornamented by distinct, rather prominent radiating striæ, which, on the dorsal valve, nearly always increase by intercalation, and curved gradually outward, on the posterior lateral regions; while on the ventral valve they generally increase by bifurcation, and are nearly straight on all parts. A few distant, imbricating marks of growth are also usually seen around the free margins of adult examples; while well preserved specimens show minute, but not crowded, prominent, concentric lines crossing the much larger radiating striæ, and the furrows between them.

Length of a mature, rather gibbous specimen, 1 inch; breadth, 1.24 inches; convexity, 0.80 inch. Some examples are proportionally decidedly broader, and others a little less so." [Meek.]

Position and locality. Cincinnati Group; Richmond, Indiana; cabinet of Mrs. Mary P. Haines.

Orthis biforata, Schlotheim. Var. *acutilirata*, Conrad.

PLATE II, FIGURES 5, 6, 7, 8 AND 9.

Orthis acutilirata. Meek, 1873, Paleontology, of Ohio; Vol. 1, p. 119.

"The typical and most common form of this variety or species is much extended on the hinge line, which usually terminates in acutely angular, or even mucronated lateral extremities, thus causing the breadth to be sometimes twice or even in extreme cases, three times the length of the valves. Between these, however, and others having the hinge not more than one-fifth greater than the length, and only about equaling their greatest breadth, there is a completely uninterrupted series of intermediate forms. In all of its variations of proportional length and breadth, however, it agrees in having three, or very rarely four, simple, angular plications in the bottom of the sinus, and four, or very rarely five, on the mesial fold, which latter is always rounded, and but comparatively little elevated. All of its plications are simple, while they are smaller and more numerous than those of any of the other varieties found in this country; there being on each side of the mesial fold and sinus from 11 to 18, making the entire number about 26 to 40 on each valve. The specimens with the lateral extremities most extended have the largest number of plications, probably only because there is more space for them. In these, however, only about the same number reach the beaks as on those less

dilated, as a number of the outer ones on the lateral extensions of those more produced laterally, run out on the hinge line without reaching the beaks.

This form becomes quite gibbous with age, the gibbosity being generally most obvious, (though not always actually greatest) in the specimens least extended on the hinge line, some of those with the most produced lateral extremities having the middle portions of the valve quite as convex as any of the others of the same antero-posterior dimensions. In these the lateral slopes are very concave, and the anterior lateral margins sinuous and strongly converging toward the front. The mesial sinus is well defined, and widens and deepens rather rapidly forward; and as the mesial fold is proportionally less elevated, the front is often thus caused to be distinctly sinuous in the middle.

Old specimens become quite thickened within, and consequently have the cavity for the muscular attachments in the ventral valve very deep, and similar to that of the var. *lynx*. The surface granulations are usually very beautifully preserved on this variety.

In its much longer hinge line, more produced and acutely angular lateral extremities, more numerous and smaller plications, this form contrasts strongly with the variety *lynx*; while in these characters and its more depressed and rounded mesial fold, it is even much more strongly distinguished from all the other known kindred forms of this country.

In its great proportional breadth, and the small size and greater number of its plications, this shell would seem to agree more nearly with the typical European variety *biforata*, than any other we have in this country. Yet it differs in rarely ever having more than three (never more than four) plications in the sinus, instead of five to seven. (See McCoy's description of that form). It probably also differs in having its great lateral extension only at and near the hinge line, thus producing acutely angular lateral extremities, as this character is not mentioned in any of the descriptions of that variety I have seen. So far as I have yet observed, no form exactly corresponding to this has been figured from any foreign locality; and it is the most strongly marked type of the group yet known in this country.

I am much inclined to think it ought to be separated specifically from all the other forms here noticed under the general name *biforata*, not only on account of the differences mentioned, but because it is confined to one horizon; while all of the others, except the var. *lynx*, which has a much greater range, belong to lower horizons.

Length of a moderate sized, laterally extended specimen, 0.76 inch; breadth, 1.53 inches; convexity, 0.77 inch. Some examples are proportionally more extended on the hinge line, and others much less." [Meek.]

Position and locality: Cincinnati group; Richmond, Indiana; cabinet of Mrs. Mary P. Haines.

Genus *RHYNCHONELLA*. Fischer.

Rynchonella capax, Conrad.

PLATE I., FIGURES 9, 10 AND 11.

Rynchonella capax. Meek 1873, Paleontology of Ohio, p. 123.

"Shell attaining about a medium size, varying with age from compressed sub-trigonal to sub-globose, old examples being often more convex than their diameter in any other direction; posterior lateral margins somewhat straightened and converging to the beaks at about a right angle in young shells, but becoming more rounded in the adult; lateral margins rounding to the front, which is more or less distinctly sinuous, or nearly straight in the middle.

Dorsal valve generally a little more convex than the other, most prominent in the middle, and rounding abruptly, or sloping more gently, from the central regions in all directions; the more elevated part forming anteriorly a depressed mesial ridge that is nearly flat, and occupied by four plications on top, and rarely continues two-thirds of the way to the strongly incurved beak; while on young or compressed individuals, it is faintly marked even anteriorly; lateral slopes each occupied by four to seven or eight simple angular plications.

Ventral valve with its beak abruptly pointed, and very strongly incurved upon that of the other valve, in adult shells, but less distinctly curved, and showing a small opening under its apex, in young examples; mesial sinus deep and well-defined in gibbous specimens, and less so in the young or more compressed forms, never quite reaching the point of the beak, and always having three simple, rather angular plications in the bottom, that extend, like the others, to the apex of the beak, in well-preserved specimens; lateral slopes each occupied by from five to seven plications.

Entire surface of both valves marked by numerous, very regular, strongly zig-zag, prominent, sublaminar marks of growth, that become nearly or quite obsolete, sometimes, on old examples.

Length of a medium sized, moderately gibbous individual, 0.75 inch; breadth, 0.81 inch; convexity, 0.66 inch.

This species varies considerably in form, but generally increases regularly in convexity with age, some of the larger individuals becoming extremely gibbous.

It varies comparative little, however, in the number of plications, though the younger individuals usually show the marks of growth more distinctly than the largest and most convex ones. Large examples have the

substance of the shell often much thicker within, on each side of the umbonal region of the ventral valve, with a deep angular impression between for the muscular scars, and a deep, narrowly rounded, rostral cavity, which makes the beak of this valve very thin, so that its apex is often broken away in such a manner as to appear as if there had been a perforation there. But many well preserved, adult specimens show that this is not the case, though there was always a small opening under the immediate apex, in young shells, which became closed, by the close incurving of the beak upon that of the other valve, with age. The hinge teeth of the ventral valve are quite prominent, and between these and the beak there is a concave space on each side of the rostral cavity, that sometimes presents the appearance of a very restricted concave area; but it seems to be the result of the truncation, as it were, of the thickened margin on each side of the rostral cavity, to form a space for the strongly incurved beak of the opposite valve. The cardinal process of the dorsal valve is moderately prominent, and so deeply divided as to present the appearance of two diverging teeth, with a slender, slightly raised ridge or line in the bottom of the division between; while a more or less defined mesial internal ridge extends forward nearly to the middle of the interior surface of the valve, and just outside of these divisions of the cardinal process, a deep pit is seen on each side, for the reception of the teeth of the other valve." [Meek].

Position and locality: Cincinnati Group; Richmond, Indiana; cabinet of Mrs. Mary P. Haines.

Rhynchonella dentata, Hall.

PLATE I., FIGURES 12, 13 AND 14.

Rhynchonella dentata, Meek. Paleontology of Ohio, Vol. I., p. 121.

"Shell rather small, trigonal-subglobose, generally slightly wider than long, and usually, in adult examples, quite convex; posterior lateral margins nearly straight, or a little convex in outline, and converging to the beaks at nearly a right angle; anterior lateral margins rounded or sub-angular; front usually a little sinuous, as seen in a direct view of either valve.

Dorsal valve more convex than the other, particularly in the anterior central region, where it is often very prominent, being elevated in the form of a distinct mesial ridge that is divided into two plications by a central furrow; lateral slopes rounding off more or less abruptly, and each occupied by from four to five simple, rather angular, radiating plications; beak strongly incurved.

Ventral valve (as seen in a side view) somewhat strongly arched from beak to front, or more or less compressed in the central region, and

abruptly curved up at the front and beak; mesial sinus commencing small near the beak, and widening and deepening (with sloping sides and a single central plication) to the front, where it equals about one-half the entire breadth, and terminates a more or less produced sub-trigonal marginal projection, curved up nearly at right angles to the plane of the valve, and fitting into a corresponding sinus in the edge of the same; lateral slopes generally quite abrupt from the edge of the mesial sinus, and each occupied by about five simple sub-angular plications; beak incurved, but not so closely upon that of the other as to conceal the small foramen under its apex.

Surface of both valves with the plications continued to the points of the beaks, and imparting to the interlocking anterior margins a sharply zig-zag outline; while on well preserved specimens very fine, obscure lines of growth may be seen, by the aid of a magnifier, crossing the plications and furrows between them, parallel to the zig-zag anterior and lateral margins; though these lines are usually nearly or quite obsolete, excepting near the front.

Length of a rather large, well developed, gibbous specimen, 0.51 inch; breadth of same, 0.55 inch; convexity, 0.67 inch. Some individuals are proportionally more convex, and others less." [Meek.]

Position and locality: Cincinnati Group, Richmond, Ind.; cabinet of Mrs. Mary P. Haines.

LAMELLIBRANCHIATA.

Genus MEGAPTERA, Meek and Worthen.

A. *Megaptera casei*, Meek and Worthen.

PLATE I, FIGURES 1 AND 2.

Ambonychia (megaptera) casei, M. & W., Illinois Geological Report, Vol. III., p. 337.

"Shell trigonal, compressed sub-equivalve, extremely inequilateral, posterior side long, compressed and strongly alate; the wing very large, produced, pointed, and not separated from the alate posterior margin by a distinctly defined sinus; margin below the wing, sloping obliquely forward to the basal angle; cardinal margin the longest part of the shell, straight and much compressed from immediately behind the beaks. Anterior side truncated nearly vertically from the beaks, about half way down the front, thence sloping slightly backwards to the basal angle. Basal margin produced downwards, and terminating in a distinct angle, slightly in advance of the middle. Umbonal slopes very prominent, angular, or sometimes apparently bicarinate, straight, and extending from the beak, near the anterior margin, to the most

prominent part of the base, ranging at an angle of about 65° below the horizon of the hinge-line, and provided with a longitudinal sulcus below the middle of the valves. Beak straight, rising a little above the cardinal margin, and quite terminal. Surface ornamented with distinct, irregular, alternately larger and smaller, thread-like radiating striæ, with less distinct concentric lines, and a few distinct, stronger marks of growth, which sometimes form prominent, imbricating, sub-spinous projections on the umbonal angle.

Length, as inferred from the direction of the lines of growth, about 2 inches; height, 1.73 inch; convexity, 0.64 inch." [Meek and Worthen.]

Position and locality: Cincinnati Group; Richmond, Indiana. The figures here given are copies of those of the type specimens in the private cabinet of Mr. L. B. Case, of Richmond, Indiana.

GASTEROPODA.

Genus CYCLONEMA. Hall.

Cyclonema bilix. Conrad.

PLATE II., FIGURES 3 AND 4.

Cyclonema bilix, Conrad. Meek, 1872, Paleontology of Ohio, Vol. I., p. 151.

"Shell vasing from rhombic sub-globose to conoid-subtrochiform; spire conical, but very variable in its elevation, thus causing considerable variation in the relative length and breadth of the entire shell, which, however, is most generally somewhat longer than the breadth; volutions four to five, increasing rather rapidly in size, compressed-convex, the compression being very variable in degree, and usually parallel to the general slope of the sides of the spire; last or body turn more or less narrowly rounded, or sometimes almost subangular below the middle; suture varying from merely linear to rather deeply channeled; aperture broad-ovoid to sub-quadrate; inner lip thickened, a little straightened and rather distinctly flattened, from near the middle downward; outer lip sharp and rather oblique. Surface ornamented by revolving lines and furrows, that vary greatly in size, arrangement and distinctness, and are crossed by fine, very oblique, regular, thread-like lines, and sometimes irregular ridges of growth; both of which, however, are subject, occasionally, to become nearly or quite obsolete.

Height of a medium sized specimen of typical form, 0.84 inch; breadth, 0.82 inch.

This is an exceedingly variable shell, so much so, indeed, that it is difficult, even after excluding some extreme forms that may be distinct species' to assign it definite characters. These variations consist not only of differences of general form, but also in the depth of the suture, the convexity

of the volutions, and the out line of the aperture, as well as in the nature of the surface markings. The fine, regular, very oblique lines of growth, are most constant, but the revolving lines, ridges and furrows, are very variable in size and arrangement. All of these different varieties of form and surface markings, however, shade into each other by intermediate gradations, to such an extent that it seems hardly possible to separate them more than as varieties." [Meek.]

Position and locality: Cincinnati group; Richmond and Madison, Indiana; cabinet of Mrs Mary P. Haines.

CRUSTACEA.

(*Trilobites.*)

Genus CALYMENE, Brougniart.

Calymene senaria, Conrad.

PLATE II., FIGURES 1 AND 2.

Calymene Senaria. Meek, 1873, Paleontology of Ohio, Vol. I., p. 173.

"General form sub-ovate, the length being usually about one and a half to one and three-fourths the breadth; convexity rather more than one-third the breadth.

Cephalic shield, as seen in a direct view from above, sub-semicircular, approaching sub-lunate, the anterior outline being more or less nearly regularly rounded, and the posterior broadly sinuous, with the posterior lateral extremities bluntly sub-angular, or abruptly rounded. Glabella more prominent than the cheeks or eyes, about as wide behind as its length, including the neck segment, very strongly defined from the cheeks and the front margin (which latter is very prominent, and strongly recurved and arched upward in the middle) by profound furrows; lateral lobes, particularly the posterior two pairs, distinctly defined by deep lateral furrows that curve a little backward, the posterior pair being transversely, or obliquely, a little oval, and about three times as large as those of the next pair, which are as much larger than the third pair, all being nearly round; neck furrow well defined; neck segment about the same size as the first thoracic segment, often slightly thickened at each end, arched a little forward, and nearly or quite as high as the most prominent part of the glabella in front. Eyes rather prominent, small, nearly surrounded, excepting on the inner side, by a shallow concavity, and situated opposite the furrows between the anterior and middle lateral lobes of the glabella; visual surfaces very small, about twice as long as high, a little arcuate, and directed nearly laterally; palpebral lobes small, rather prominent, and capping, as it were, the visual surfaces. Movable

cheeks, with thick, rounded, lateral margins, defined by a distinct, rounded marginal furrow, continuous with that separating the anterior end of the glabella from the prominent, arched middle of the anterior margin. Fixed cheeks, provided with a very deep, broad furrow along their posterior margins. Facial sutures directed forward anteriorly, so as to intersect the margins somewhat nearer together than the breadth across between the eyes; posteriorly, sometimes slightly furrowed, and directed at first a little obliquely backward and outward from the eyes, for less than half their length, then curving somewhat abruptly, and extending more obliquely backward, nearly straight to, or very slightly in front of the posterior angles of the cheeks; rostral shield strongly arched, about twice and a half as long, measuring directly across from its lateral extremities, as the height from its upper to its lower margin, at the middle. Labrum or hypostome longitudinally oblong, with sinuous lateral margins; anterior end a little wider than any other part, with a convex outline; anterior margin prominent, rather deeply notched in the middle, with a projecting point on each side of the notch. Internal surface concave; external, convex and smooth.

Thorax about twice the length of the middle of the cephalic shield, narrowing backward, and very strongly trilobate; mesial lobe as wide as the lateral, and distinctly more convex, rounded or somewhat depressed on top, and having its thirteen segments usually a little thickened at their ends, but without nodes. Lateral lobes separated from the middle one by distinct furrows, somewhat flattened on the inner third, and rounding off more or less strongly to the lateral margins; pleuræ extending straight outward for about one-fourth to one-third of their length, and then slightly deflected and curved backward to their outer ends, which are rounded, compressed, somewhat expanded, and provided with a thickened marginal ridge (not seen externally), while the anterior faces of their outer halves are strongly flattened or beveled for sliding upon each other in rolling up; each with its longitudinal furrow well defined, and placed so as to divide off, as it were, its anterior third, though this is not seen more than half way out from their inner ends, when the thorax is folded together.

Pygidium one-half to two-thirds the length of the middle of the cephalic shield, wider than long, with a more or less nearly sub-trigonal outline, the anterior margin, however, generally being so rounded as to impart a nearly transversely sub-oval form to the general outline; mesial lobe well defined, depressed convex, and extending very nearly to the posterior margin, showing five or six segments, the last two being very faintly defined, while behind those there is space enough for two or three more. Lateral lobes sloping off more or less rapidly, each with about five segments, only the

anterior one of which has a furrow like that of each of the pleuræ. Entire surface finely and even granular.

Length of cephalic shield (at its middle), 0.52 inch; greatest breadth at the posterior angle of the cheeks, 1.08 inches; length of glabella, exclusive of neck segment, 0.34 inch; breadth of glabella, 0.32 inch. Length of thorax, about 1 inch; breadth at anterior, about 0.97 inch; breadth of anterior end of mesial lobe, 0.35 inch. Length of pygidium, 0.36 inch; breadth of the same, 0.50 inch.

This common and beautiful trilobite is regarded by many as only a variety of *Calymene blumenbachii*, Brongniart, which may be the case, as the characters in which it differs from that species are not very striking. Its most obvious differences consist in its more finely and evenly granulated surface, and smaller size; the *C. blumenbachii* having its surface marked by granulations, with tubercles, or larger granulations mingled with the smaller, and attains a rather decidedly larger size. There are also some other more or less important differences of details, such as the more produced and reflexed front margin of the head of *C. senaria*, the proportionally rather broader base of its glabella, and the more anterior position of its eyes.

Whether such differences should be regarded as being of specific, or only sub-specific importance, is, to some extent, a matter of taste, or perhaps more properly speaking, depends upon one's views in regard to the degrees, or kinds of differences, that should be considered specific. However this may be, it seems desirable, in the present state of our knowledge of these forms, to keep them separate." [Meek.]

Position and locality: Cincinnati Group; Madison, Indiana; cabinet of Prof. Collett.

UPPER SILURIAN.

ECHINODERMATA.

Genus *EUCALYPTOCRINUS*, Goldfuss.

Eucalyptocrinus crassus, Hall.

PLATE III., FIGURE 1.

Eucalyptocrinus crassus. Hall, twenty-eighth annual report of the Regents of University of New York, p. 141.

"Body massive, turbinate from the base to the arms, and with the inter-brachial plates and arms attached, it has a general sub-ovate form with a truncate base, which in most specimens is deeply impressed at the column

attachment. Basal plates small, concealed in the basal cavity. First radial plates much larger than the succeeding ones, height and width sub-equal; second radials quadrangular, length and breadth equal, the greatest width at the base; third radials hexagonal, the lower lateral and upper sides shorter than the other three. First supraradials somewhat smaller than the third radials, pentangular in well formed specimens; second supraradials less than half as large as the first, pentangular, supporting on each upper sloping side a small triangular plate, upon which rest the first arm plates. The inter-radial plates are one large and two smaller to each field; the large one is ten-sided and elongate-ovate, its greatest width above the middle; the others are nearly as long, but narrow, united at their margins the entire length, greatest width below the middle, the summits reaching as high as the fourth or fifth pair of arm plates. The inter-supraradial plate is single, having the form of the two upper interradials when united, but smaller.

This species is extremely variably in form and proportions of the body, the older specimens being often more elongate, and sometimes constricted near the middle of the cup, giving a concavity to the side. The base is much broader in some specimens, giving to the first radials a greater proportional breadth. It differs from the *E. lævis* and *E. phillipsi* of Troost, in the much greater height of cup, greater elongation of plates, and in having a less proportion of the first radial plates within the basal cavity." [Hall.]

Position and locality: Niagara group; near Waldron, Decatur county, Ind.

BRACHIOPODA.

Genus RHYNCHONELLA, Fischer.

Rhynchonella tennesseensis, Roemer.

PLATE III., FIGURES 2, 3 AND 4.

Shell moderately large, often somewhat inflated or even sub-globose, sub-circular or sub-pentahedral in marginal outline, breadth and length about equal, and the thickness from one fifth to one quarter less. Ventral valve shallow, beak not prominent; median sinus broad, distinct in front, but disappearing in the umbonal region. Dorsal valve rather deep; median fold broad and distinguishable only at the front. Surface, besides the ordinary lines of growth, marked by about twenty obtusely angular radiating plications extending from beak to front on each valve; plications of nearly uniform size on all parts, except that they become somewhat smaller and less distinct upon the postero-lateral portions; about five of the plications occupy the median fold and sinus respectively.

Length and breadth each about 1.12 inches; thickness, 0.88 inch.

The shell described and figured by Dr. F. Roemer is, in his *Silurische Fauna von Westlichen Tennessee*, is a much smaller one than that which is here figured, which latter shell is about the usual adult size as found in Indiana. The Indiana shells have usually been identified with Dr. Roemer's species, but Prof. Hall thinks it doubtful whether that identification is correct, and he is more inclined to refer it to the *R. stricklandi* of Sowerby.

Position and locality: Niagara group; near Waldron, Decatur county, Ind.; cabinet of Prof. Collett.

Genus SPIRIFER, Sowerby.

Spirifer radiata, Sowerby.

PLATE III., FIGURES 5 AND 6.

Shell irregular sub-oval in marginal outline, broader than long, both valves moderately gibbous; hinge line shorter than the greatest width of the shell. Ventral valve having the umbonal region prominent and the beak distinct and incurved; cardinal area moderately broad-triangular; foramen rather small; median sinus narrow, extending from beak to front, readily distinguishable, but not sharply defined at its sides. Dorsal valve considerably shorter than the ventral, beak moderately prominent, median fold narrow and clearly distinguishable from beak to front, but not very sharply defined.

Surface marked by very numerous, fine, radiating lines, which are crossed by the ordinary lines of growth.

Length, 1.35 inches; breadth, 1.52 inches.

There seems to be no good reason to doubt the specific identity of this American shell with that to which the name was originally applied in Europe.

Position and locality: Niagara Group, near Waldron, Indiana; cabinet of Prof. Collett.

GASTEROPODA.

Genus PLATYOSTOMA, Conrad.

Platystoma niagarens, Hall.

PLATE III., FIGURES 7 AND 8.

Platystoma niagarens, Hall, 28th An. Rep. Regents Univ., N. Y., p. 175.

"Shell ovoid or sub-globose, volutions three to four, the last one very ventricose, spire varying from the plane of the outer volution to an elevation of one-fifth or one-fourth the height of the shell above.

Apex minute, somewhat rapidly expanding, the first two volutions usually symmetrical; the outer volution often unsymmetrical, very ventricose and regularly rounded upon the back, but not unfrequently extended and becoming free toward the aperture, and marked on the upper or lower side, or upon both, by a groove, along which the striæ are abruptly bent, indicating a sinus in the peristome during some period of its growth; peristome entire or undulated, sometimes distinctly notched in the margin, free or adhering on the columellar side, and sometimes expanded and presenting a thickened callosity or columellar lip.

Surface marked by fine undulating striæ of growth, which sometimes become lamellose. In well-preserved specimens finer revolving striæ cancellate the striæ of growth, and sometimes the surface is marked by revolving ridges." [Hall.]

Position and locality: Niagara Group, near Waldron, Decatur county, Indiana.

CRUSTACEA.

(*Trilobites.*)

Genus CYPHASPIS, Burmeister.

Cyphaspis christyi, Hall.

PLATE III., FIGURE 9.

Cyphaspis christyi. Hall, 28th An. Rep. Regents Univ. N. Y., p. 188.

"General form of body elongate-oval, the length nearly twice the greatest width of the thorax.

Head semi-oval, the posterior margin slightly concave, highly elevated in the middle, bounded by a proportionally strong, thickened rim, the posterior angles being prolonged into slender spines reaching to the sixth or seventh thoracic segment, and slightly divergent. Glabella small, broad-oval, rounded in front and truncate behind, about half the length of the head, greatest width anterior to the middle; surface convex, very prominent behind, some specimens showing faint indications of a pair of short oblique furrows anterior to the middle; near the base on each side a small ovate node separated from the glabella by a distinct furrow; longitudinal furrows moderately deep. Eyes small, very prominent and rounded, situated about one-third the length of the head from the posterior margin; distance from center to center equal to the length of the head forward of the occipital furrow; the surface smooth. Occipital ring narrow, the furrow well marked, becoming less distinct toward the posterior cheek furrows. Cheeks not prominent except anteriorly.

Thorax with twelve segments, highly convex, deeply lobed, lobes nearly equal in the anterior portion; the axial lobe more rapidly tapering posteriorly than the lateral ones, its annulations curved forward in the middle; later segments curved a little backward, the extremities obtusely rounded, somewhat abruptly bent a little nearer the axial extremities, causing an angular ridge along each lateral lobe; each segment marked by a strong longitudinal furrow nearer the anterior margin.

Pygidium small, sub-semicircular, a little arched forward on the anterior border; axial lobe extending a little more than two-thirds the length of the pygidium, rounded at the extremity and marked by one distinct and one indistinct annulation, as also in the lateral lobes. Surface marked by small scattered pustules, most distinct on the cheeks and segments of the axial lobe." [Hall.]

Position and locality: Niagara Group; near Waldron, Decatur county Indiana.

DEVONIAN.

POLYPI.

Genus ZAPHRENTIS, Rafinesque and Clifford.

Zaphrentis, — — ?

PLATE V., FIGURES 3 AND 4.

Genus FAVOSITES, Lamarck.

Favosites, — — ?

PLATE V., FIGURES 1 AND 2.

These two corals are figured on plate V. as being in a general way, at least, characteristic of the Devonian rocks of Indiana.

Both species occur among many other coralline forms in the Devonian rocks near Jeffersonville, Indiana, where they were collected by Mr. V. W. Lyon of that place. They are not described nor even specifically identified in this article, because of the great necessity that is recognized of a thorough revision of the fossil corals of our country, and the consequent doubt that is naturally felt as to the correctness of specific determinations by means of merely the external features. External characteristics, it is true, will always remain valuable aids in the specific determination of fossil corals, but in the present state of paleontological science one is not justified in omitting microscopic and other details of internal structure.

BRACHIOPODA.

Genus STROPHODONTA, Hall.

Strophodonta demissa, Conrad.

PLATE IV., FIGURES 6 AND 7.

Strophodonta demissa, Hall, Paleontology N. Y., Vol. IV., p. 101.

"Shell semi-elliptical, usually wider than high, length and breadth often nearly equal; hinge line equaling or greater or less than the width of the shell below, abruptly contracted beneath the extremities, which are often auriculate; in some specimens the sides are nearly straight, and parallel for more than half the length of the shell.

Ventral valve regularly convex, often gibbous; greatest elevation nearly central, and sometimes sub-angulated along the middle; umbo small and prominent, with the apex slightly incurved and extending beyond the plane of the area; surface a little concave toward the cardinal angles, which are slightly deflected. Dorsal valve moderately concave, rarely following the convexity of the opposite valve; sometimes an undefined median depression extends from beneath the apex to the front of the shell.

Area of the ventral valve variable, usually of moderate width, from 8-100 to 12-100 of an inch wide in the center, having a low triangular outline, concave in the middle, and for a considerable distance on each side of the beak strongly striated transversely, and more faintly longitudinally, sometimes marked along the middle by a sub-angular elevation; inner margin crenulated for nearly its entire length. There is no foramen, but sometimes a smooth triangular space beneath the beak. Dorsal area narrow and usually linear, sometimes wider and sometimes narrower in the middle, and the margin for a short space free from crenulations. The planes of the two areas are inclined so as sometimes to give less than a right angle between them, but generally a greater angle, and along the middle the two are often nearly in the same plane.

Surface marked by numerous crowded striæ, about nine or ten of which are much stronger and more elevated on the umbo of the ventral valve, with finer ones coming in between and on either side; striæ frequently increasing by intercalation and bifurcation, until they become very numerous and much finer at the margin. On the dorsal valve the striæ are similar to those of the ventral valve. In well-preserved specimens fine concentric striæ cover the entire surface, but the greater number of specimens do not preserve these markings. The coarser striæ are sometimes seen separated in the middle of the shell, each one presenting the appearance of a fascicle of

striæ, which spreading, cover the lower part of the shell with extremely fine crowded striæ.

The interior of the ventral valve, and casts of the same, show a large flabelliform divaricator muscular impression, which is somewhat widely separated in front, and each division distinctly lobed. The occlusor muscular impressions occupy a semi-elliptical space on each side of a narrow central depression, the marking on either side being double in well preserved specimens. The upper extremities of this impression are close under the arch of the umbo, and separated by a smooth space from the divaricator impressions.

Beyond the muscular impressions, the interior surface is minutely pustulose, the points being more prominent just without their limits; beyond which, the course of the vascular impressions can be distinctly traced. In the dorsal valve, the anterior and posterior occlusor muscular impressions are very conspicuous and deeply marked, and often limited by an elevated ridge, a narrow longitudinal ridge dividing the two pairs. On each side, and below the muscular impressions, the surface is marked by small pustules or tubercles; and beyond these the surface is minutely pustulose, the vascular impressions becoming distinct towards the margin. The cardinal process is divided from the base, the divisions strongly diverging." [Hall.]

Position and locality: Hamilton Group, Charleston, Indiana.

Genus ORTHIS, Dalman.

Orthis iowensis. Hall (?).

PLATE V., FIGURES 10, 11 and 12.

Orthis iowensis. Hall, Geology of Iowa, Vol. I., Part ii., p. 488.

"Shell resupinate, transversely oval or sub-globose, with a deep sinus in front; hinge line less than two-thirds the greatest width of the shell. Ventral valve much the less convex, greatest convexity near the beak, and flattened towards the margins, with a deep sinus from the middle to the base of the valve; beak elevated slightly above the opposite, pointed, not incurved. Dorsal valve extremely gibbous, greatest convexity about the center of the valve, and sloping abruptly to the sides; umbo arched; beak prominent, slightly incurved over, and projecting beyond the hinge line. Area small; foramen narrow.

Surface marked by fine, closely arranged, radiating, tubular striæ, which increase by bifurcation and interstitial addition, and are crossed by fine concentric striæ and a few imbricating lines of growth; radiating striæ presenting numerous tubular openings upon the surface, and marked by fin

pores or punctæ over the entire surface. Interior of ventral valve marked by strong muscular impressions, which are limited by dental lamellæ and divided in the center by a strong ridge, presenting a quadrangular area below the hinge line, the vascular impression proceeding in radiating impressed lines from the base of this quadrangular area; teeth strong, prominent. Dorsal valve deeply concave, with strong prominent brachial processes, and a median cardinal process, which is sometimes bilobate. Entire interior of shell punctate; striæ marking the inner margins of both valves, but rarely extending far beyond." [Hall.]

The specimen figured on Plate V., although presenting some differences from the typical forms of *Orthis icuensis*, is probably identical with that species. I have seen examples from the same locality at which the types of that species were obtained which have quite as deep a sinus in the front of the ventral valve as this example has. I am, however, not without some doubt as to its identity with *O. icuensis*, especially as there are several other recognized species from the same, or nearly the same, geological horizon in different parts of the country which are at least closely related to it. It may thus be compared with *O. tulliensis*, *O. propinqua*, *O. impressa*, etc.

Position and locality: Devonian strata, Charleston, Ind.; cabinet of Mr. Geo. K. Greene.

Genus ATRYPA, Dalman.

Atrypa reticularis, Linnæus.

PLATE V., FIGURES 7, 8 AND 9.

This species is so characteristic of the genus, and of the Devonian rocks so almost world-wide in its distribution, and withal so well known, that it is not thought necessary to redscribe it here. The specimen figured on plate V. is from Charleston, Indiana, Cabinet of Prof. Collett.

Genus ATHYRIS, McCoy.

Athyris vittata, Hall.

PLATE IV., FIGURES 8 AND 9.

Athyris vittata, Hall, Paleontology of N. Y., Vol. IV., p. 289.

"Shell ovate-subquadrate, gibbous, with the mesial fold and sinus distinct; front conspicuously sinuate; hinge-line short; cardinal extremities rounded.

Ventral valve gibbous above, more convex than the dorsal; umbo prominent; the beak incurved and truncated in the plane of the longitudinal axis by a round foramen, curving very abruptly to the cardinal and cardino-

lateral margins; the center marked by a well defined mesial sinus, which is continued nearly or quite to the beak, and becoming much deeper and sub-angularly margined towards the front.

Dorsal valve a little less gibbous than the ventral valve, sides regularly curving; the middle of the upper part distinctly prominent, and developed below in a strong mesial fold which is abruptly elevated in front.

Surface marked by regularly imbricating lamellose lines of growth, which, on the better preserved surfaces, are finely crenulate on their edges, and the intermediate spaces striate." [Hall].

Position and locality: Devonian strata at Charleston, Clarke county, Indiana; cabinet of Prof. Collett.

Genus SPIRIFER, Sowerby.

Spirifer acuminata, Conrad.

PLATE IV., FIGURES 1, 2 AND 3.

Spirifer acuminata. Hall, Paleontology of New York, Vol. IV., p. 198.

"Shell large, ventricose, transverse, with the hinge line usually less than the width of the shell; cardinal extremities rounded or truncated, having a sub-elliptical or sub-quadrate outline, mesial fold and sinus extreme. Surface plicated. Ventral valve variably convex on the two sides, with a wide mesial sinus, which is well defined in the upper part, becomes wider and deeper and less distinctly defined in the middle of the shell, and is produced in front into a long triangular extension; gently or more abruptly curving from the greatest convexity to the sides and cardinal angles; umbo prominent, with the apex incurved over the wide, triangular fissure; area extending to the cardinal angles, with the margin rounded, except toward the extremities.

Dorsal valve gibbous, highly elevated in the middle into a strong angular mesial fold, and curving from the sides of the fold to the margin of the shell, except at the cardinal angles, where it is a little flattened and projecting, so as to give a minute auriculate appearance; summit of the mesial fold regularly arcuate from beak to base; apex slightly incurved over the narrow, nearly vertical area.

Surface, on either side of the mesial fold and sinus, marked by from sixteen to twenty plications, about four or five of which, nearest the center, are dichotomous from below the middle of their length; ribs low and rounded above, flattened below the middle, those towards the margin very slender; the first ten or twelve ribs on each side occupy the greater part of the valve. The entire surface is marked by delicate concentric striæ, which are often crowded into imbricating lamellose lines towards the front of the shell. In

very perfect specimens these concentric striæ are papillose or fimbriated by fine radiating striæ. These fine surface markings, however, are usually nearly or quite obliterated." [Hall.]

Position and locality: Devonian strata; North Vernon, Indiana; cabinet of Professor Collett.

***Spirifer euritines*, Owen.**

PLATE IV., FIGURES 4 AND 5.

Spirifer euritines. Owen, Geol. Sur. Wisconsin, Iowa and Missouri, p. 586.

"Shell nearly semi-elliptical, cardinal area very wide, slightly concave and fully striated; narrow perforation; beaks sometimes more than half an inch apart; smooth, with eighteen to twenty ribs on either side of the bourrelet, finely striated longitudinally, sometimes studded with small granulae; bourrelet rather narrow, with a shallow sinus in the median line, finely striated and crossed by fine concentric lines of growth, and sometimes by fine granulae. Sinus of the dorsal (ventral) valve also sometimes finely granulated.

Length, one inch; breadth, one and a half inches." [Owen.]

Position and locality: Devonian strata; Charleston, Indiana; cabinet of Mr. George K. Greene.

***Spirifer gregaria*, Clapp.**

PLATE IV., FIGURES 10 AND 11.

Spirifer gregaria. Hall, Pal. N. Y., Vol. IV., p. 195.

"Shell ventricose, sub-globose, semi-oval or sub-quadrate in outline; hinge line equaling or less than the width of the shell; cardinal extremities truncate or rounded. Surface plicated.

Ventral valve the more gibbous, regularly arcuate from beak to front, the greatest convexity at or a little above the middle, and curving somewhat abruptly to the sides and more gently to the front; beak much elevated, and the apex closely incurved over the fissure; area high, concave, and extending to the cardinal angles, where it is sometimes more than half a line high, often distinctly striated; mesial sinus rounded or sub-angular, and much produced in front.

Dorsal valve very convex, with a strong mesial fold, either angular or somewhat flattened along the summit, and sometimes marked by an indistinct groove; beak often considerably elevated and slightly inclined over the hinge line; area narrow except in the center, where it perceptibly widens.

Surface marked by from six to ten strong rounded ribs on each side of the mesial fold and sinus; the entire surface with undulating concentric striæ, which, towards the front, become strong zig-zag imbricating lines.

The interior of the ventral valve presents a well defined oval muscular impression with a low crest in the center. The dental plates are often much thickened, filling the entire rostral cavity and encroaching upon the muscular area.

The width of the species ranges from one-half to seven-eighths of an inch, and the length is sometimes a little greater but usually a little less than the width. In the more gibbous specimens, the beak of the ventral valve is so extremely elevated that one half of the length of the valve is above the cardinal line. In the majority of specimens, there are about six or seven plications on each side of the valve. The variable gibbosity of the shell gives an apparent variation in the height of the area, the beaks of the two valves sometimes approaching close to each other." [Hall.]

Position and locality: Various localities in Indiana and adjoining States; Devonian strata of the age of the Hamilton group; cabinet of Mr. Geo. K. Greene.

LAMELLIBRANCHIATA.

Genus *PARACYCLAS*, Hall.

Paracyclas elliptica var. *occidentalis*, Hall.

PLATE V., FIGURES 5 AND 6.

Lucina (Paracyclas) elliptica var. *occidentalis*. Hall, 24th An. Rep. Regents Univ., N. Y., p. 189.

"Shell orbicular, of medium size, nearly circular in outline, with regularly convex valves and small, closely appressed and approximate beaks, centrally situated. Cardinal border very slightly excavated just anterior to the beaks, but rounded and full behind. The sinus just within the posterior cardinal margin (so characteristic of the group), is but slightly developed. Surface marked by strong, sharp striæ, which are often developed into irregular concentric ridges." [Hall.]

The specimen figured on plate V. is an unusually large and fine one, from the cabinet of Dr. James Knapp, of Louisville, Kentucky, who also furnished Prof. Hall with his type specimens of this variety.

Position and locality: Hydraulic limestone; Centreville, Indiana.

SUB-CARBONIFEROUS.

*POLYPI.*Genus *LITHOSTROTION*, Fleming.*Lithostrotion mamillare*, Castelnau.(*Lithostrotion canadense*, Castelnau.)

PLATE VI., FIGURES 1 AND 2.

Corallum massive, or sometimes occurring in dendriform tufts, varying in these respects with the greater or less compactness of contact of the corallites, but they are usually all in close contact with each other, as shown in figures 1 and 2; calyces circular if the corallites are free, but polygonal if they are in contact with each other, very unequal in size, deep, the bottom elevated, and its center usually bearing a salient columella, which is sometimes laterally compressed to a slight degree; two very small septal fossets are usually discernable in well-preserved examples, one on each side of the columella, in the direction of its longitudinal axis, one of them being a little deeper than the other. The number of rays varying with the size of the corallite; from 18 to 44.

This is one of the most widely distributed and characteristic fossils of the Sub-carboniferous rocks of the interior States, ranging from northern Iowa to Alabama, marking characteristically the horizon of the St. Louis division of the Sub-carboniferous series.

The specimen figured on plate VI. is from Monroe county, Indiana, which is part of the same specimen containing three or four double corallites, and figured on plate 40. Annual Rep. U. S. Geol. Sur. Terr., 1878.

*ECHINODERMATA.*Genus *TAXOCRINUS*, Phillips.*Taxocrinus multibrachiatus*, Lyon and Cassady. Var. *colletti*, White.

PLATE VII., FIGURE 3.

Body having the usual sub-globose form common to the genus, the separate pieces being slightly convex and showing slight if any tendency to become angular along the median line of the rays and their subdivisions; under-basal pieces not observed, being covered by the column; basals (sub-radials) projecting considerably beyond the surface of the column, one of them being much larger than the others, projecting up into the oval area and some-

what widely separating the first radial pieces of the two posterior rays; primary radial pieces, five to the anterior ray and four to all the others; the upper border of the upper primary ray bearing a short median projection the piece being somewhat broader than the others, but otherwise of similar size; upper border of all but the upper piece of each primary ray concave, as seen at the sutures, where small petaloid pieces are sometimes present; pieces of the secondary rays, four for the two of the anterior primary ray and three for all the others (except in case of one secondary ray, there are four); petaloid pieces being usually present at their sutures; tertiary rays composed of from seven to nine pieces, their sutures being straight or only slightly sinuous; each tertiary ray is divided into two arms, and each alternate arm is dichotomous.

Anal series not fully observed, but it occupies a considerable space, a little larger than the corresponding interrarial spaces, and the anal opening seems to have been a little eccentric; primary interrarial spaces of moderate size, occupied by six or seven principal pieces, with other minute pieces above them; one or two minute pieces exist between each pair of secondary rays, but beyond these no interrarial pieces, as a tertiary series are visible. Whole surface granular. Column round, composed of uniform thin joints.

This form agrees with the description of *Forbesocrinus multibrachiatus*, Lyon and Cassady, as published by them in Am. Jour. Sci. and Arts, Vol. XXVIII., p. 235, but it differs in having five primary pieces to the anterior ray instead of only four; in having only one or two minute secondary interrarial pieces to each ray, instead of six or seven, and in having no third series of interrarial pieces. These differences would by many be regarded as fully of specific importance, and perhaps they are really so; but in view of the wide variation that is now known to exist among crinoids within specific limits, it is thought best to regard the form represented by our example as only a variety of *Taxocrinus multibrachiatus*, L. and C. I refer to these forms to *Taxocrinus* in accordance with the views expressed by Wachsumth and Springer in their excellent Revision of the Paleocrinidæ.

Position and locality: Keokuk division of the sub-carboniferous series; Crawfordsville, Ind.; cabinet of Prof. Collett, in whose honor the variety name was given.

Genus SCAPHIOCRINUS, Hall.

*Scaphiocrinus gibsoni**, White.

PLATE VII., FIGURE 7.

Scaphiocrinus gibsoni. White, Proc. Acad. Nat. Sci., Phila., 1878, p. 31.

Scaphiocrinus gibsoni. White An. Rep. U. S. Geol. Sur. Terr. for 1878, p. 161.

* The specific name is given in honor of Mr. Wm. Gibson, of Newport.

"Body small, or not above medium size for a species of this genus; calyx roughly cup-shaped, the pieces composing it moderately thick and protuberant, especially the first radial, sub-radial and first anal pieces; base small, nearly or quite covered by the first joint of the column; sub-radial pieces comparatively large, tumid; first radial pieces broader, but scarcely larger than the sub-radials; sutures between the pieces of the calyx impressed, especially at the points where the angles meet, and where there are pit-like depressions which increase the tumid appearance of the pieces and give the calyx a somewhat shrivelled aspect; anal space comparatively large. The postero-lateral rays consist of three pieces, including the first radials, and upon each of the third radials the first bifurcation of the ray takes place; and above this the posterior secondary division of the ray only bifurcates; this third bifurcation taking place on the eighth piece above the second bifurcation, giving five simple arms for each of the postero-lateral rays beyond all the bifurcations. All the pieces composing the rays, including those of both the primary and subordinate divisions, have a tendency to become angular upon the back, especially at the upper side of each.

This, together with the apparent corrugation of the calyx and the zigzag articulation of the joints of the arms near the upper ends, gives the whole specimen a good degree of asperity of aspect. Pinnules strong and somewhat angular, arising alternately one from each joint of the arms and subordinate divisions of the rays. The other rays are not fully known, but they apparently bifurcate in nearly the same manner as the postero-lateral ones. Column moderately large, composed of irregularly alternating larger and smaller pieces. The whole surface of body, arms and column, minutely and distinctly granular, as seen under the lens.

This species resembles *S. æqualis* (Hall), as figured by Meek and Worthen in Vol. V., Geological Report of Illinois, more nearly than any other form known to me, but it differs from that species in the much greater proportionate length of the arms, as well as their number and the manner of their bifurcation, besides the difference in the character of the surface. A conspicuous difference is also seen in the divisions of the rays, *S. æqualis* having eight arms by the ultimate division of each postero-lateral ray, while *S. gibsoni* has only five. In the former species also the joints of the upper parts of the arms lack that zigzag arrangement which they have in the latter, and the general asperity of aspect of the latter is wanting in the former.

Position and locality: Sub-carboniferous strata, Keokuk division, Crawfordsville, Indiana; cabinet of Mr. William Gurley.

Scaphiocrinus gurleyi. White.

PLATE VII., FIGURE 8.

Scaphiocrinus gurleyi. White, Proc. Acad. Nat. Sci., Philad., 1878, p. 32.
An. Rep. U. S. Geol. Sur. Terr. for 1878, p. 162.

Body of medium size or somewhat less; calyx roughly cup-shaped; sub-radial, first anal and first radial pieces prominent, the sutures being deeply impressed; base nearly covered by the last joint of the column; sub-radial and first anal pieces as large as, or a little larger than, the first radials; the anterior and the two antero-lateral rays only are known. These rays consist of three pieces each, including the first radials already mentioned as constituting a part of the calyx, and upon the third radial the first bifurcation of the ray takes place, each division being once more bifurcated at varying distances from the first. In the anterior ray the second bifurcation takes place upon the eleventh piece from the first. In the antero-lateral rays the second bifurcation takes place upon the ninth piece of the anterior branch of each of those rays above the first bifurcation; and upon the seventh piece, in the case of the posterior branches of the same respectively. Near the tips of some of the arms there is still another bifurcation, the divisions of which, being very small, may be easily overlooked, or confounded with the coarse pinnules. The pinnules are large, long, angular and alternately arranged upon each side of the arms, each piece of all the divisions of the arms above the first bifurcation of the rays bearing only one. The backs of all the divisions of the rays are rounded, and have little or no tendency to become angular, except, perhaps, towards the extremities of the arms. Column composed of irregularly alternately larger and smaller pieces. Surface finely granular.

The calyx of this species closely resembles that of *S. gibsoni*, especially in the tumidity of the sub-radial and first anal pieces, and in the character of the column; but it differs conspicuously from it in the number of arms and the character of their bifurcations, as well as in the surface markings and other details.

Position and locality: Keokuk division of the Sub-carboniferous series; Crawfordsville, Indiana;* cabinet of Mr. Wm. Gurley, in whose honor the specific name is given.

*In the original description of this species the locality was inadvertently given as in Illinois instead of Indiana.

Genus ACTINOCRINUS, Miller.

Actinocrinus wachsmuthi, White.

PLATE VII., FIGURE 6.

Actinocrinus wachsmuthi. White, An. Rep. U. S. Geol. Sur. Terr. for 1878, p. 162.

Body rudely sub-turbinate below the arms, the sides expanding gradually and with slight convexity up to near the arm-bases, where there is a more abrupt expansion; base broader than high, rather deeply notched at the sutures by the prominence of the middle portion of each basal piece; column-facet large; first radial pieces nearly equal in size with the basals, and with that exception they are the largest pieces in the body; second and third radials about equal to each other in size and not more than half as large as the first radials, each third radial piece bearing two secondary rays consisting of two pieces each, both of which are smaller than the second and third radials, each second secondary radial piece bearing two brachial pieces, and each first brachial piece giving origin to an arm, making twenty arms in all.* Arm long and slender, and above the first four or five brachial pieces, which are single, they are composed of a double series of minute pieces which meet at a not very deeply zig-zag suture along the median line of the arm. Anal-pieces eight or nine, the first one being of about the same size as the first radials; the next three pieces above are about half as large as the first, and above these the other pieces are quite small; interrarial pieces three or four, the first one being somewhat larger than the second radials and occupying about half of the whole interrarial space.

Vault convex or sub-conical, more than half as high as the body below the arms, composed of irregular pieces of moderate size, all of which are more or less sharply tumid in the middle; vault ending at the summit in a long, strong proboscis which is composed of sharply tumid pieces similar to those of the vault. All the body plates are strongly tumid, the lower ones bearing each a strong transverse projection.

Position and locality: Keokuk division of Sub-carboniferous series; Crawfordsville, Indiana; cabinet of Mr. Wm. Gurley.

Figure 6, Plate VII., represents one of the type-specimens of this species, having the arms and stem removed. The specimen showing a part of the arms and the proboscis is figured in Annual Report of the U. S. Geological Survey of the Territories already cited.

*The example figured on plate VII. has an extra arm-base immediately over the center of the anal space; and it also has an extra basal piece, which is about one-third as large as each of the other three basal pieces.

Genus *Pentremites*, Say.*Pentremites pyriformis*. Say.

PLATE VII., FIGURE 9.

Pentremites pyriformis. Hall, Geology of Iowa, Vol. I., part II., p. 693.

"Body pyriform, the greatest diameter in the middle, and tapering to both extremities; the summit more obtuse and rounded, obtusely pentangular below the pseudambulacral areas, with sides flat; base narrow, with the upper joint of the column usually remaining attached. Basal plates forming a pentagonal shallow vase. Radial plates spreading and ascending, angular, along the middle at the base, deeply furcate, slightly concave along the lateral sutures. Interradial plates narrow-lanceolate, reaching nearly to the summit. Pseudambulacral areas lanceolate, gradually enlarging from the base, concave toward the median line, or sometimes flat; the number of pore-pieces varies from thirty to fifty on each side of the median line. Mouth pentagonal; ovarian apertures closely arranged, often somewhat transversely oval." [Hall.]

This is one of the longest and best known species of this genus; and is widely distributed in the Chester division of the Sub-carboniferous series.

Position and locality: Chester or Kaskaskia division of the Sub-carboniferous series; Down Hill, Crawford county, Indiana; cabinet of Professor Collett.

Pentremites godoni, DeFrance.

PLATE VII., FIGURES 10 AND 11.

Pentremites godoni. Hall, Geology of Iowa, Vol. I., part II., p. 692.

"Body ovoid, short, sub-truncate below, obtusely pentangular-stelliform in outline; basal plates forming a small pentagonal moderately convex disc, with the spreading upper joint of the column usually attached, and presenting a small papilliform elevation; radial plates extending almost rectangularly to the base of the pseudambulacral areas, abruptly bent and obtusely angular in the middle of the base; sides nearly parallel, deeply forked for the reception of the pseudambulacral areas; interradial plates long-lanceolate not reaching to the summit; pseudambulacral areas, long-lanceolate, reaching nearly to the base of the calyx, very gradually widening above, convex, each side curving to a median suture which is more elevated than the sides; poral plates narrow, crowded, from forty to fifty on each side, nearly rectangular to the area, and slightly curving upward on the median line. Mouth pentangular; ovarian apertures broad oval; summit convex." [Hall.]

Position and locality: Chester division of the Sub-carboniferous series, Dubois, Harrison and Crawford counties, Indiana.

Pentremites conoideus, Hall.

PLATE VII., FIGURE 12.

Pentremites conoideus, Hall, Geology of Iowa, Vol. I., part II., p. 655.

"General form conoidal or pyramidal, with the angles rounded; base sub-truncate; apex a little flattened. Basal plates slightly convex; radial plates extremely elongated and deeply divided for the reception of the pseudambulacral areas; interrarial plates deeply inserted between the radial plates, long lanceolate and very acutely pointed above; pseudambulacral spaces very elongate, narrow, extending nearly to the base, with sides sub-parallel, convex along the median line, which is sharply depressed; poral plates varying with age from twenty-five to fifty; ovarian apertures circular; anal aperture ovate and much larger than the others. Surface marked by fine closely arranged striæ which, on the radial plates, are parallel to the margins till near the summit, where they are stronger and diverge from the suture; striæ on the interrarial plates diverging from the center. Length, from one-fourth, to three-fourths of an inch." [Hall.]

Position and locality: Warsaw division of the Sub-carboniferous series; Spurgen Hill, Bloomington and other places in Indiana; cabinet of Prof. Collett.

BRACHIOPODA.

Geus SPIRIFER, Sowerby.

Spirifer textus, Hall.

PLATE VII., FIGURES 1 AND 2.

Spirifer textus. Hall, Tenth An. Rep. Regents Univ., N. Y., p. 169.

"Shell large, somewhat thin, semi-circular or sub-semicircular, one-third to one-half as long as broad; height often greater than length; hinge equaling the greatest width of the shell and terminating in more or less salient angles at the extremities; dorsal valve convex, most prominent near the front, rising in the middle into a rounded mesial fold, which diminishes regularly and somewhat rapidly from the front; beak, together with the narrow area, distinctly arched; ventral valve much more convex, very prominent at the umbo, from which it slopes at an angle of about 100° towards the lateral margins and more abruptly to the front; mesial sinus deep, rapidly increasing from beak to front, where it occupies about one-fourth of the anterior margin, terminating in a broad projection with a rounded extremity; beak angular, far removed from the hinge by the high intervening area, nearly straight or slightly arched towards the extremity; area very large and high, plain below; foramen large, triangular, about two-thirds as broad as high. Surface marked

by about twenty simple depressed and rounded plications on each side of the mesial fold and sinus; plications crossed by fine, irregular undulating concentric lines of growth. Entire surface delicately and beautifully marked by minute elongated pits, so disposed as to present, under a magnifier, the appearance of twilled cloth." [Hall.]

Position and locality: Knobstone division of the Sub-carboniferous series, near Providence and New Albany, Indiana; cabinet of George K. Greene and Professor Collett.

PTEROPODA.

Genus CONULARIA, Miller.

Conularia missouriensis, Swallow.?

PLATE VI., FIGURE 4.

Conularia missouriensis. Meek & Worthen, Vol. IV., Ills. Geol. Rep., p. 541.

"Shell attaining a large size, presenting the usual elongated, four-sided, pyramidal form, two of the opposite sides being wider than the others, with their lateral margins diverging towards the aperture at an angle of about eighteen degrees, while those of the narrower sides diverge at an angle of about twelve or fifteen degrees; transverse section (in a distorted specimen) rhombic; angles at the four corners rather deeply furrowed; sides without a distinct mesial furrow. Surface marked by comparatively strong, rather prominent, apparently smooth, sharp, transverse costæ, about half as wide as the rounded furrows between; in passing across the sides these curve more or less upward towards the aperture, and are often interrupted and alternating in the middle; costæ and spaces between, so far as can be seen, without crenulations.

Length of a specimen incomplete at both extremities, 6.10 inches; breadth of one of the wider sides at smaller end, 0.52 inch; breadth of same at larger end, 1.88 inches; breadth of narrow sides at smaller end, about 0.50 inch; breadth of same at larger end, about 1.30 inches." [Meek & Worthen.]

This specimen, represented on plate VI., is identified somewhat satisfactorily with the *C. missouriensis* of Swallow, as figured and described by Meek & Worthen. The shape and surface markings agree well, and as ours is plainly a broken specimen, its full size may have been quite equal to that of the Illinois specimens, which were upward of six inches in length.

Position and locality: St. Louis division of the Sub-carboniferous series Ellettsville, Ind.; cabinet of Prof. Collett.

*GASTEROPODA.*Genus *PLATYCERAS*, Conrad.*Platyceras equilatera*, Hall.

PLATE VII., FIGURE 5.

Platyceras equilatera. M. & W., Ill. Geol. Rep., Vol. V., p. 518.

"Shell attaining a medium size, composed of about one to one and a half turns; apex small, laterally compressed, and closely incurved, nearly on the same plane as the general curve of the body of the shell, or but very slightly oblique; body portion merely arched, and rapidly and nearly equally expanding to the aperture, which has an irregular, sub-circular, or broad sub-oval outline; lip rather sharp, and more or less sinuous, sometimes distinctly so. Surface with undulating lines, and near the margins of the lip stronger sub-imbricating marks of growth; the undulations in the markings corresponding to the sinuosities of the lip, which sometimes produce traces of obscure longitudinal folds near the aperture.

Greatest length of a mature specimen, measuring from the anterior margins of the lip to the most prominent part of the arch of the spire, 1.62 inches; breadth of the aperture, 1.15 inches.

Like many other species of this genus, this shell varied considerably at different stages of growth, the young shells being nearly smooth, while in adults the undulating marks of growth are strongly defined near the lip, which often becomes strongly sinuous, particularly on the anterior lateral margins. In one specimen there are two deep anterior sinuses, with a prominent linguiform extension between. This individual has much the appearance of *P. trilobum* (*Pileopsis trilobus*, Phillips), to which the species is evidently closely allied." [Meek & Worthen.]

Position and locality: Keokuk division of the Sub-carboniferous series Crawfordsville, Ind.; cabinet of Prof. Collett.

*CEPHALOPODA.*Genus *GONIATITES*, DeHaan.*Goniatites oweni*, Hall.

PLATE VII., FIGURES 3 AND 4.

Goniatites oweni, Hall, 13 An. Rep. Regents Univ., N. Y., p. 100.

"Shell depressed, sub-orbicular; umbilicus moderately large (varying in different individuals); volutions five, six or more; about one-sixth to one-fourth the width of the volutions showing in the umbilicus, three-fourths or

more being embraced in each succeeding volution. Aperture sub-lunate or semi-elliptical, with the angles auriculate; sides of the volutions flattened toward the ventral margin, and gradually curving to the dorsal side; the back regularly curved. Surface (as preserved in the specimens examined), without markings. Dorsal lobe elongate, a little wider above than below and narrower in the middle, extremity bifid; dorsal saddle highly arched, with a height equal to, or greater than its width at base; dorsal-lateral lobe elongate, triangular, with a low arching lateral saddle and a narrow triangular ventral lobe." [Hall.]

Position and locality: Kinderhook division* of Sub-carboniferous series; Rockford, Indiana; cabinet of Prof. Collett.

CRUSTACEA.

(*Trilobites.*)

Genus PHILLIPSIA, Portlock.

Phillipsia bufo, Meek & Worthen.

PLATE VI., FIGURE 5.

Phillipsia (Griffithides) bufo, Meek & Worthen, Ill. Geol. Repts., Vol. IV., p. 528.

"Entire outline elliptical, the breadth being to the length as 75 to 130. Cephalic shield forming more than a semi-circle, round in front and nearly straight behind; posterior lateral angles terminating in short, abruptly pointed spines extending back to the anterior edge of the thoracic segment. Glabella rather depressed, convex, wide anteriorly and narrowing posteriorly to the neck furrow, just in front of which, and connected with the palpebral lobes on each side, it has a single small, obscure lateral lobe; neck furrow broad and well defined, both across the glabella and across the posterior margins of the cheeks; neck segment rather wide, depressed below the level of the highest part of the glabella in front of it. Eyes of moderate size, reniform nearly as prominent as the glabella, placed but little in front of the continuation of the neck furrow across the cheeks, apparently smooth, but showing, when the outer crust is removed, numerous very minute lenses beneath. Cheeks sloping off rather abruptly from the eyes to the thickened margin, which does not continue around the front of the glabella; facial sutures cutting the anterior margin in front of the eyes before, and a little outside of them behind. Thorax nearly twice as wide as long, distinctly trilobate; mesial lobe but moderately prominent, nearly twice as wide as either of the

*Knobstone division of Indiana Geol.

lateral lobes, its eight segments merely rounded, and without furrows. Lateral lobes narrow; pleuræ curving moderately downwards at less than half their length out from the axail lobe, but not distinctly geniculated, each provided with a furrow extending nearly half way out.

Pygidium approaching semi-circular, with the anterior lateral angles obliquely truncated; mesial lobe but slightly wider anteriorly than the lateral; segments about eleven; lateral lobes with eight or nine segments. Surface finely granular, the granules being most distinct on the glabella, and the segments on the mesial lobe of the thorax." [Meek & Worthen.]

The specimen figured on plate V. has been somewhat distorted by accidental pressure, but it is evidently specifically identical with Meek & Worthen's type of this species, which was from the same locality.

Position and locality: Keokuk division of the Sub-carboniferous series; Crawfordsville, Indiana; cabinet of Hon. John T. Scott.

COAL MEASURES.

BRACHIOPODA.

Genus *PRODUCTUS*, Sowerby.

Productus costatus, Sowerby.

PLATE VIII., FIGURES 7 AND 8.

Productus costatus, var. Hall, Vol. I., Part II., Geol. of Iowa, p. 712.

The form represented by figures 7 and 8, plate VIII., has for many years been generally identified with the European species, *Productus costatus*, but by some it has been regarded as identical with *P. semi-reticulatus*. If really identical with either of those European species, it seems to be more properly referable to the former than the latter species. Professor Hall recognized this form in Iowa as identical with *P. costatus*, but as a distinct variety. The following is his description of it: "Shell somewhat hemispheric, transverse, about as long as wide. Ventral valve strongly arcuate, ventricose in the middle on each side, with a broad, shallow depression down the center which does not extend to the beak, constricted at the cardinal extremities below the vault, and extended in short, sometimes recurved auricles; beak incurving a little beyond the hinge-line; sides rounded, compressed, the front usually somewhat sinuate. Dorsal valve regularly concave in the middle, flattened or broadly grooved towards the hinge extremities.

Surface of ventral valve marked by numerous rounded costæ, many of which frequently dichotomise on the upper part of the shell, and often coalesce and again subdivide below; cardinal margin marked by two or three spines on each side (two often quite conspicuous on each of the ears), and a row of spines upon the fold just within the constriction bounding the ears, extending from near the beak in a curving line towards the base of the shell. Entire surface of the valve marked at irregular intervals by the bases of spines, which are sometimes numerous; upper half of shell covered by strong concentric wrinkles. Surface of dorsal valve marked by strong rounded costæ and equally strong concentric wrinkles, giving, as in the opposite valve, a sub-nodose appearance. Entire surface of both valves, in well preserved specimens, marked by fine concentric striæ." [Prof. Hall.]

Position and locality: Coal measure strata; Silver mine; Vermillion county, Indiana; cabinet of Mr. Wm. Gibson.

Genus SPIRIFER, Sowerby.

Spirifer cameratus, Morton.

PLATE VIII., FIGURE 3.

Shell usually of medium size, but sometimes quite large, sub-semicircular or sub-triangular in outline, almost always broadest at the hinge line; the hinge extremities often pointed and sometimes mucronate. Dorsal valve not quite so capacious as the other; mesial fold distinct, broad at the front, sometimes sharply elevated, but more commonly rounded, clearly defined from front to beak and rapidly increasing in width to the front by the greater or less curving outward of the sides; sides of the valve sloping almost directly from the mesial fold to the lateral borders; antero-posterior convexity of the mesial fold very slight from front to middle, but increasing from the middle to the beak; beak small, projecting slightly over the cardinal border. Ventral valve strongly arching from beak to front, the beak being prominent, pointed and curved over the area; area concave, of moderate width and not narrowing to a sharp angle at the hinge extremities; foramen almost equilaterally triangular, partially closed by a pseudo-deltidium, which is often removed by weathering; mesial sinus well defined from front to beak and in all respects answering to the mesial fold of the other valve.

Surface marked by numerous distinct, rounded striæ of unequal size, which increase gradually in size towards the front; striæ increasing in number by the division near the beak of the few which are continuous to its point; they are thus generally gathered into more or less distinct fascicles of three or more striæ in each fascicle, the middle striæ of each fascicle being

more prominent than the others, and these are the only striæ which reach the point of the beak; the mesial fold and sinus usually have striæ of the same character and arrangement as those upon other parts of the shell, but in some cases they are obsolete upon the sides of the fold and sinus respectively. Besides the radiating striæ, the surface is marked by the usual lines and laminations of growth. The figure on Plate VIII. is of a specimen which does not show the striæ gathered into distinct groups, as is commonly the case. This is one of the most common species in the coal measure strata of North America, of which it is also one of the most characteristic fossils.

Position and locality: Coal measure strata; Waterman, Parke county, Indiana.

LAMELLIBRANCHIATA.

Genus *ALLORISMA*, King.

Allorisma subcuneata. Meek & Hayden.?

PLATE VIII., FIGURES 1 AND 2.

Allorisma subcuneata Meek & Hayden, Final Report Geol. Nebraska, p. 221.

"Shell attaining a large size, longitudinally elongated, or twice to three times as long as high, the proportional length increasing with age, greatest convexity a little in advance of the middle and in the umbonal region; cuneate and a little gaping behind, where the margin is more or less narrowly rounded in outline. Basal and dorsal margins nearly parallel, the latter being more or less concave in outline, or nearly straight, and inflected so as to form a lanceolate kind of a false area, bounded by an obtuse ridge on each side, just outside of which there is a shallow, undefined sulcus; basal margin slightly convex, or somewhat straightened along the middle, and sometimes very faintly sinuous just under the beaks, rounding up more abruptly before than behind; anterior margin very short, a little gaping and rather prominently rounded below; beaks convex, incurved, and placed near the anterior end, rather depressed, but rising moderately above the dorsal margin. Surface ornamented with fine striæ of growth, and well defined concentric undulations, usually most distinct and regular on the beaks and umbonal regions.

Length of the largest specimen seen, 4.81 inches; height from ventral to dorsal margin, near middle, 1.76 inches; convexity, 1.57 inches.

This fine species has neither umbonal ridge nor lunule, properly speaking, though there is an undefined excavation in front of the beaks, and an obscure ridge extending from the back part of each beak to the posterior

extremity of the hinge. Like, perhaps, all other species of this and several allied genera, this species, when well preserved, has its entire surface covered with granules. These granules are rather scattering, and, as usual, arranged in radiating rows; it is very rarely, however, that specimens are found in a condition to show these delicate surface characters, since there are usually no traces of them on casts of the shell." [Meek & Hayden.]

The specimen represented by Figures 1 and 2 on Plate VIII., is a little more elongate than is usual with *A. subcuneata*, although the apparent elongation is evidently somewhat increased by the accidental pressure which our specimen has suffered. There seems to be little room for doubt, however, that it is properly referable to that species.

Position and locality: Coal measure strata, Edwardsport, Knox county, Indiana; cabinet of Professor Collett.

GASTEROPODA.

Genus POLYPHEMOPSIS, Portlock.

Polyphemopsis fusiformis, Hall.

PLATE VIII., FIGURE 6.

Macrocheilus fusiformis. Hall, Geology of Iowa, Vol. I, part II, p. 718.

Shell elongate sub-fusiform; spire more than half the whole length of the shell; its sides nearly straight, the apical angle being about thirty degrees; volutions ten or twelve, those of the spire gently convex; the body volution moderately ventricose; suture moderately distinct but not deep. Surface marked by the ordinary lines of growth, but the shell has a rather smooth aspect.

This shell is identified with the *Macrocheilus fusiformis* of Hall with comparatively little doubt, although it is much larger than the one from which Professor Hall's description was drawn.

Position and locality: Coal measure strata, Newport, Indiana; cabinet of Professor Collett.

Genus PLEUROTOMARIA, DeFrance.

Pleurotomaria tabulata, Hall.

PLATE VIII., FIGURES 4 AND 5.

Pleurotomaria tabulata. Hall, Geology of Iowa, Vol. I, part II, p. 721.

"Shell turreted, conical; volutions about eight or nine, angular, somewhat rapidly ascending; the last one ventricose, carinate on the outer margin, with a prominent crenulate or nodiferous band, above and below which

the volutions are sometimes a little concave; suture well defined; aperture transverse, somewhat ovate; columella thickened; umbilicus none. Surface marked by conspicuous striæ which are parallel to the lines of growth, bending abruptly backward on the angulated periphery of the volution; these are crossed by revolving striæ which sometimes become slightly nodulose near the sutures of the upper volutions, while on the lower side of the last volution they are more conspicuous, and are cancellated by the vertical striæ becoming nodulose at the junction." [Hall.]

Position and locality. Coal measure strata, Rush creek, Posey county, Indiana; cabinet of Professor Collett.

FOSSIL PLANTS,

Genus NEUROPTERIS.

Neuropeteris hirsuta, Lesqx.

PLATE IX., FIGURES 1, 2 AND 3.*

This species was first described in the Geological Report of Pennsylvania, and it is found widely distributed in the coal measures of North America. Professor Lesquereux speaks of it as a very polymorphous species. Figure 1 represents an ordinary large leaflet; figure 2 a smaller, similar one, showing its hirsute character, and figure 3 one of the basal leaflets placed around the stem at the point of attachment of a primary or secondary pinna. These latter leaflets are so different in character from the others of the same plant that they were formerly regarded as belonging to other genera before their true relations were known.

Position and locality: Coal measure strata; Shelburn, Sullivan county, and Spring creek, Vermillion county, Indiana; cabinets of Judge John T. Scott and Mr. William Gibson.

Neuropteris rarinervis, Bunbury.

PLATE X., FIGURES 1, 2 AND 3.

Professor Lesquereux says of this species that it "has a tripinnate or polypinnate frond; secondary pinnæ alternate, long, linear or linear-lanceolate; pinnules alternate, contiguous or distant, oblong, obtuse, cordate and somewhat dilated at the base with the exterior lobe a little extended, a little undulate on the margin; terminal pinnule deltoid, nearly trilobate; superior pinnæ simple, linear-lanceolate, pinnatifid, or with slightly undulate mar-

*Figures 1 and 2 show a midrib in the leaflets instead of a fascicle of nervules as they should.

gins, medial nerve distinct, strong near the base, veins distinct, flat, thick, bifurcate."

Position and locality: Coal measure strata from Nova Scotia to Indiana, Kentucky and Illinois.

Genus CALLIPTERIS.

Callipteris sullivanti. Lesqx.

PLATE IX., FIGURE 4.

The following is Prof. Lesquereux's description of this beautiful form: 'Frond apparently very large, and at least bipinnate; secondary pinnæ lanceolate, with a broad canaliculate rachis; pinnules alternate, oblique, ovate or oblong, nearly contiguous, slightly decurrent at the base, and united together with a slightly obtuse sinus; medial nerve broad and flat, abruptly disappearing above the middle of the leaflets; veins obliquely arched, slender, close, mostly twice forked.'

Position and locality: Coal measure strata; Spring creek, Perrysville, Indiana; cabinet of Mr. Wm. Gibson.

Genus ANNULARIA.

Annularia longifolia. Brongniart. ?

PLATE XI., FIGURES 1 AND 2.

This is a variable species, but the specimen figured on Plate XI. seems to belong to the *A. longifolia* of Brongniart, or at least to the species represented by the forms found in the coal measures of the United States which have been usually referred to *A. longifolia*. The following is Prof. Lesquereux's description of the species, together with his remarks upon it:

"Stem thick, round, narrowly and equally striate, articulate, divided into opposite diverging branches placed crosswise in ascending, bearing at the articulations whorls of ovate-lanceolate, obtusely pointed flat leaflets, marked by a broad medial nerve. Upon specimens which seem to belong to the upper, still undeveloped part of the plant, the branches and leaflets are crowded and pressed upon one another in a scarcely distinguishable mass, presenting sometimes the appearance of a peculiar species of *Sphenophyllum*. On a specimen which shows the plant in its full development the stem, about one foot long, half an inch thick at the base, regularly striate in length, is articulate at the distance of one inch by whorls of leaves of the form described above, and two opposite branches diverging in open angles from under the leaves, and cross-wise in ascending. The leaflets, one inch long

and one-sixth of an inch broad, twelve to fourteen in each whorl, are joined at their base. The point of attachment of the leaflets upon the stem and branches is marked around the articulation by small, semi-lunar inflations or knots, corresponding in number with the leaflets, and placed just above the point of attachment."

The foregoing description does not fully agree with the specimen figured on Plate XL, partly because of its imperfection, but our figure agrees very well with a figure of *A. longifolia* given by Prof. Lesquereux on Plate II., Figure 2, Atlas of the Coal Flora, Reports Second Geol. Survey of Pennsylvania.

Position and locality: Coal measure strata; Shelburn, Indiana; cabinet of Prof. Collett.

Genus ODONTOPTERIS.

Odontopteris subcuneata, Bunbury?

PLATE XI., FIGURE 3.

The following is a quotation from Professor Lesquereux's remarks upon this species in Vol. II, Illinois Geol. Reports: "It is somewhat doubtful if the branch of *Odontopteris* figured on our plate is the same as that of Mr. Bunbury. The general form of the leaflets, especially the basilar prolongation into an ear-like appendage, and also the thinness and ramification of the slightly arched and dichotomous veins, are the same."

Position and locality: Coal measure strata, Spring creek, Vermillion county, Indiana; cabinet of Mr. Wm. Gibson.

Genus SPHENOPTERIS.

Sphenopteris acuta, Brongniart.?

PLATE XI., FIGURE 4.

The specimen figured on plate XI. seems to be identical with the *S. acuta* of Brongniart. It is rare in American strata.

Position and locality: Coal measure strata, Grape creek, Vermillion county, Illinois; cabinet of Mr. Wm. Gibson.

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ERRATA.

- On page 506, line 28, for VII, read VI.
- On page 384, line 37, for Mogalonix, read Megalonyx
- On page 5, line 20, for 22,809, read 33,800.
- On page 466, line 6, for Margar, read Margaritana.
- On page 375. error in footings corrected by inset.



noting.....

From pen-drawings by J. C. McConnell.

EXPLANATION OF THE PLATES.

PLATE I.

MEGAPTERA CASEI.

p. 491.

- 1; Left side view of type specimen.
- 2; Front view of the same.

ORTHIS SUBQUADRATA.

p. 484.

- 3; Ventral view.
- 4; Lateral view of the same.

STROPHOMENA ALTERNATA.

p. 481.

- 6; Ventral view.
- 7; Dorsal view of the same.

RHYNCHONELLA CAPAX.

p. 489.

- 8; Ventral view of an adult specimen of ordinary size.
- 9; Dorsal view of the same.
- 10; Lateral view of the same.
- 11; Lateral view of an extremely gibbous specimen.

RHYNCHONELLA DENTATA.

p. 490.

- 12; Ventral view.
- 13; Dorsal view of the same.
- 14; Lateral view of the same.

All figures on this plate are of natural size.

Fig 6

PLATE II.

CALYMENE SENARIA.

p. 493.

- 1; Dorsal view of an extended specimen.
- 2; Front view of a coiled specimen.

CYCLONEMA BILIX.

p. 492.

- 3; Lateral view.
- 5; Dorsal view of the same.
- 4; Apertural view of the same.

ORTHIS BIFORATA. var. ACUTILIRATA.

p. 487.

- 5; Ventral view.
- 6; Dorsal view of the same.
- 7; Front view of the same.
- 8; Lateral view of the same.
- 9; Dorsal view of another specimen.

ORTHIS OCCIDENTALIS.

p. 485.

- 10; Ventral view.
- 11; Dorsal view of the same.
- 12; Lateral view of the same.

STROPHOMENA PLANUMBONA.

p. 488.

- 13; Ventral view.
- 14; Dorsal view of the same.

All the figures on this plate are of natural size.

PLATE III.

EUCALYPTOCRINUS CRASSUS.

p 495.

- 1; View of an almost entirely perfect example from
near Waldron, Indiana.

RHYNCHONELLA TENNESSEENSIS.

p. 496.

- 2; Ventral view.
3; Dorsal view of the same.
4; Lateral view of the same.

SPIRIFER RADIATA.

p 497.

- 5; Ventral view.
6; Dorsal view of the same.

PLATYOSTOMA NIAGARENSIS.

p. 497.

- 7; Lateral view.
8; Apical view of the same.

CYPHESIS CHRISTYI.

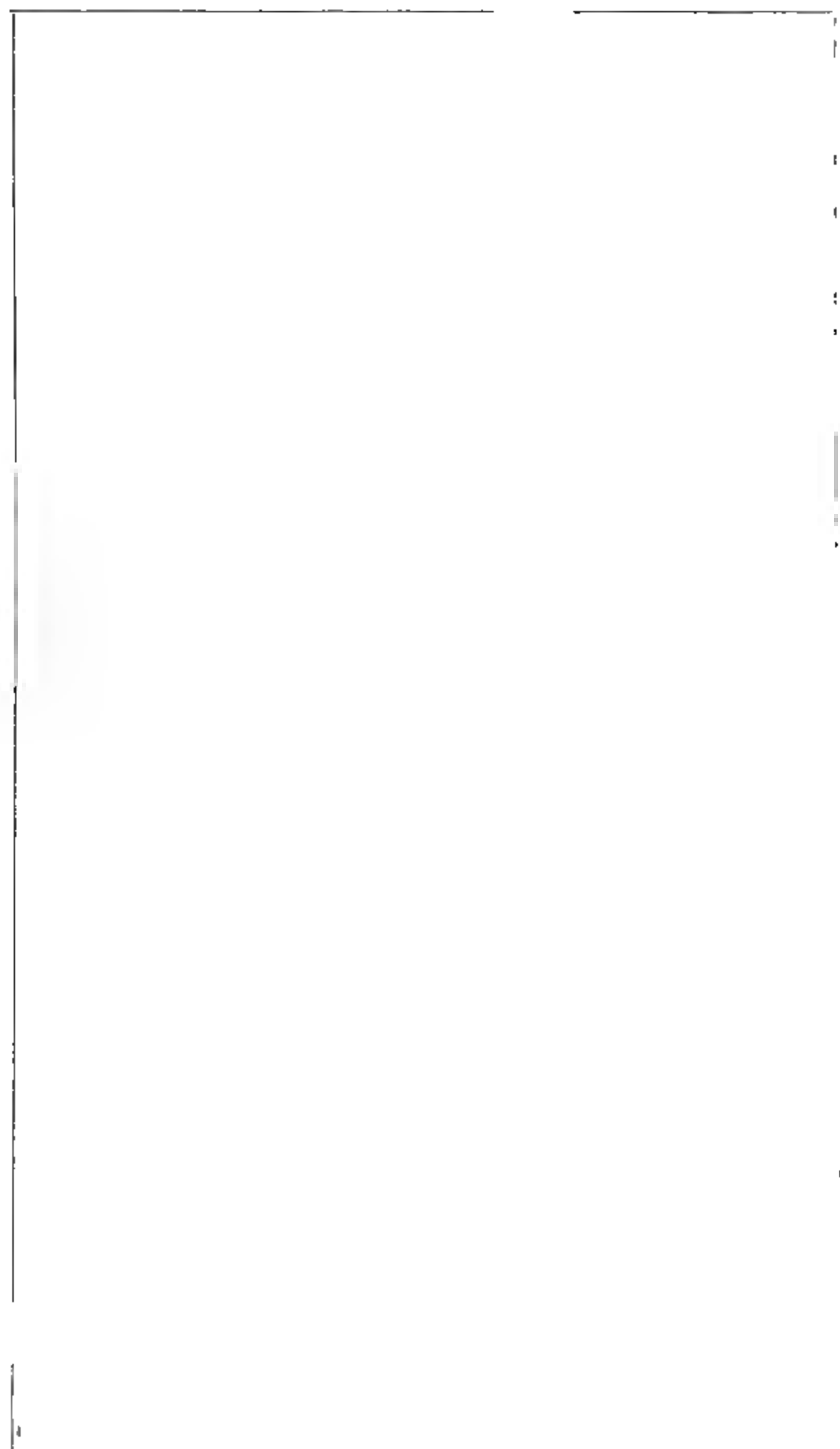
p. 498.

- 9; Dorsal view.

All the figures on this plate are of natural size.

DEVONIAN.

PLATE IV.



From pen-drawings by J C McConnell

PLATE IV.

SPIRIFER ACUMINATA.

p. 503.

- 1; Ventral view.
- 2; Dorsal view of the same.
- 3; Lateral view of the same.

SPIRIFER EURITINES.

p. 504.

- 4; Ventral view.
- 5; Dorsal view of the same.

STROPHODONTA DEMISSA.

p. 500.

- 6; Ventral view.
- 7; Dorsal view of the same.

ATHYRIS VITTATA.

p. 502.

- 8; Dorsal view.
- 9; Ventral view of the same.

SPIRIFER GREGARIA.

p. 504.

- 10; Ventral view.
- 11; Dorsal view of the same.

All the figures on this plate are of natural size.

PLATE VI.

LITHOSTROTION MAMILLARE.

p. 506.

- 1; Side view of a portion of a mass of corallites.
- 2; Upper view of the same.

TAXOCRINUS MULTIBRACHIATUS, var. COLLETTI.

p. 506.

- 3; Anterior side view of a nearly perfect, but crushed, specimen, the flattening having produced an unnaturally broad appearance to both body and stem.

CONULARIA MISSOURIENSIS.

p. 513.

- 4; Side view of a portion of the shell.

PHILLIPSIA BUFO.

p. 515.

- 5; Dorsal view of a specimen which is nearly perfect, but a little distorted by pressure.

All the figures on this plate are of natural size.

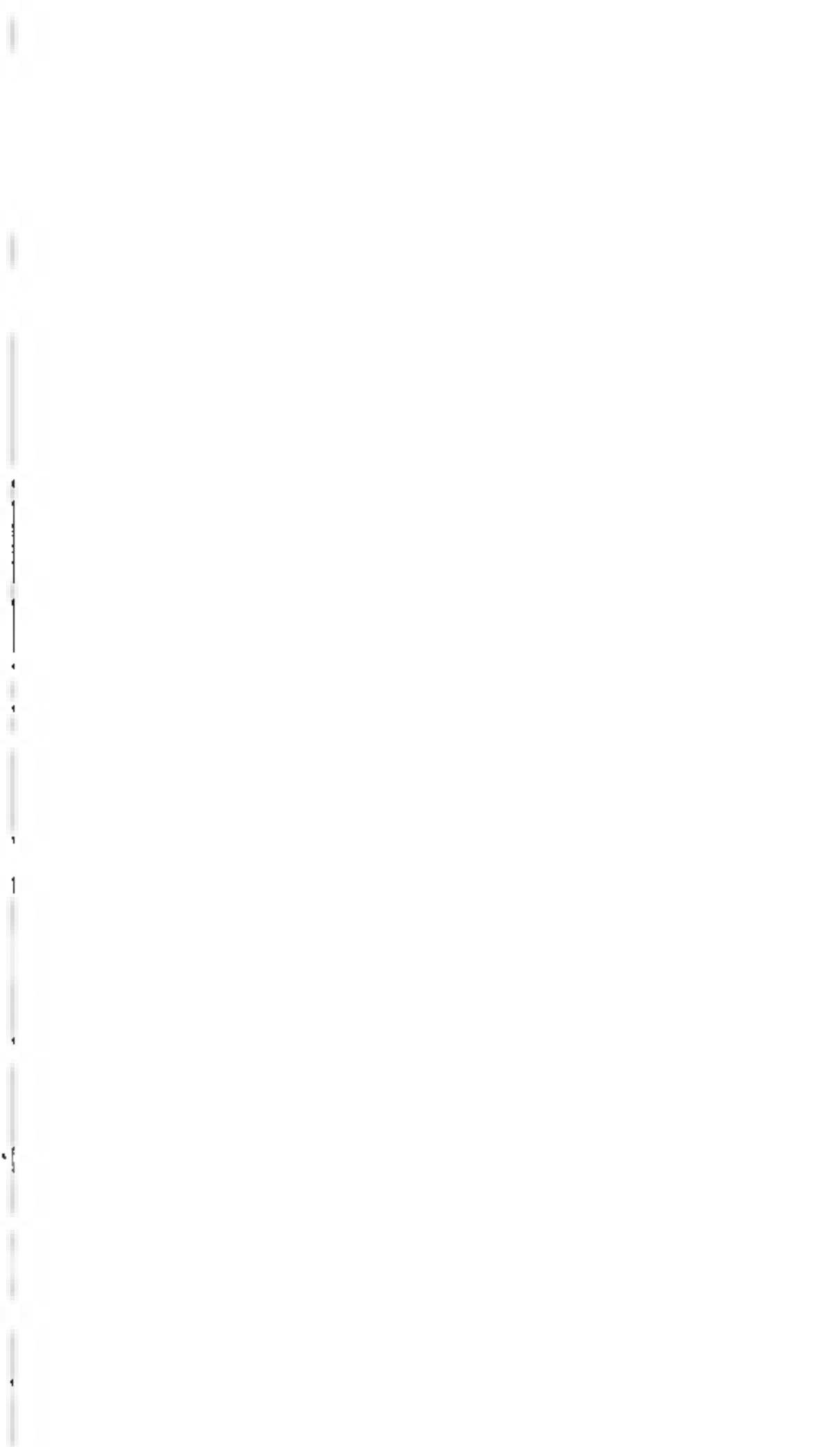


PLATE VIII

ALLORISMA SUBCUNEATA?

p. 518.

- 1; Side view of a specimen that has been somewhat distorted by vertical pressure.
- 2; Dorsal view of the same.

SPIRIFER CAMERATUS.

p. 517.

- 3; Dorsal view of a specimen of ordinary size. This figure is of a specimen upon which the radiating striæ are not gathered into distinct groups, as is commonly the case with this species.

PLEUROTOMARIA TABULATA.

p. 519.

- 4; Lateral view of a rather large specimen.
- 5; Apertural view of the same.

POLYPHEMOPSIS FUSIFORMIS.

p. 519

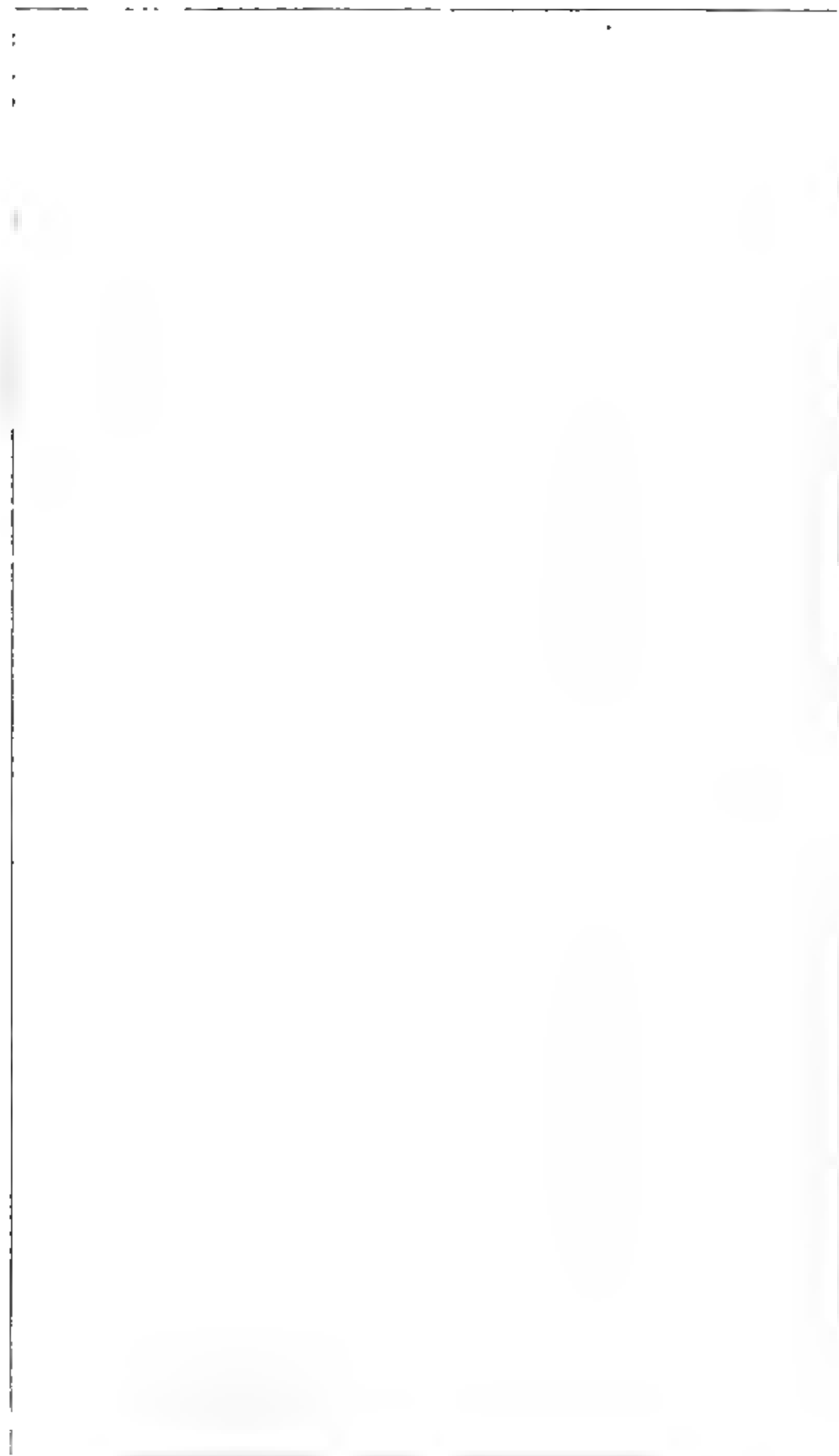
- 6; Lateral view of a large example.

PRODUCTUS COSTATUS var.

p. 516.

- 7; Ventral view of a rather large specimen.
- 8; Lateral view of the same.

All the figures on this plate are of natural size.



From pen-drawings by J. O. McConnell.

PLATE IX.

NEUROPTERIS HIRSUTA.

p. 520.

- 1; A large leaflet of ordinary kind.
- 2; A small similar leaflet, showing the hirsute character.
- 3; A large irregular leaflet of this species; but which was formerly referred to the genus *Cyclopteris* as *C. obliqua*, Brgt.

CALLIPTERIS SULLIVANTI.

p. 521.

- 4; A part of a large frond.

All the figures on this plate are of natural size.

PLATE X.

NEUROPTERIS RARINERVIS.

p. 520.

- 1; Part of a large compound frond.
- 2; Fragment of a large stem and leaflet of the same species, but which was formerly placed in the genus *Cyclöpteris* or *Nephropteris*.
- 3; Another fragment of a large leaflet, similar to Figure 2.

All the figures on this plate are of natural size.

PLATE XI.

ANNULARIA LONGIFOLIA.

p. 521.

- 1; Portion of a stem bearing three whorls of leaflets and part of another.
- 2; A fragment showing extremities of branches with the leaflets in undeveloped whorls.

ODONTOPTERIS SUBCUNEATA.

p. 522.

- 3; Portion of a frond.

SPHENOPTERIS ACUTA.

p. 522.

- 4; Portion of two branches.

All the figures on this plate are of natural size.

